

Agrium Conda Phosphate Operations

Agrium's Response to EPA's Letter Dated August 31, 2005

Agrium asserts a claim of confidentiality with respect to the information contained herein. The information to which this confidentiality claim applies constitutes trade secret, privileged or confidential commercial or financial information, and/or information specifically exempted from disclosure by statute. Such information has been maintained in confidence by Agrium and is not reasonably obtainable by use of legitimate means without Agrium's consent, and Agrium intends to continue its existing practice of protecting the confidentiality of all information subject to this claim of confidentiality.

Public disclosure of the information for which Agrium asserts this confidentiality claim would cause substantial harm to Agrium's competitive position. Furthermore, the information to which this claim applies does not constitute emission data, standards or limitations within the meaning of Clean Air Act §114(c), or other similar relevant federal and/or state provisions. This information includes commercial and/or financial-related information regarding confidential, commercially valuable plans, processes or devices. Because Agrium's business is highly competitive in nature, the disclosure of any such information would substantially harm Agrium's business position by depriving it of an advantage inherent in such information, and/or by providing Agrium's competitors with the ability to derive a benefit from such information to Agrium's detriment. For example, certain information to which this claim applies potentially could be used by Agrium's competitors to project Agrium's future production and/or pricing patterns, to gain insight into Agrium's proprietary process designs and/or production and marketing strategies, and/or to negatively influence public/consumer perceptions of Agrium and Agrium products.

In the event that EPA, or the Idaho Department of Environmental Quality ("IDEQ") receives a request for public disclosure of any information contained herein, Agrium requests that EPA and/or IDEQ notify Agrium immediately upon receiving any such request, notify Agrium of any determination by EPA and/or IDEQ with respect to the confidentiality of such information, and provide Agrium an opportunity to comment regarding any such EPA/IDEQ determination prior to the public disclosure of the requested information.

AGRIUM/CONDA
CBI Document Production Index
in Response to 8/31/05 EPA Info. Request

BATES PREFIX	BEG BATES	END BATES	DATE	DOC TYPE	AUTHOR	RECIPIENT	DESCRIPTION
AGR-CBI	001697	001697		File Cover			File cover sheet, "PPA Evap" (documents located at AGR-CBI
AGR-CBI	001698	001698		File Cover			Sub-File cover sheet, "Shut Downs" (documents located at AGR-CBI 001698-001763)
AGR-CBI	001699	001703	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Cooling Tower Normal Shutdown
AGR-CBI	001704	001706	2/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Plate and Frame Heat Exchanger Normal Shutdown
AGR-CBI	001707	001710	3/3/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Cooling Tower Emergency Shutdown
AGR-CBI	001711	001722	2/6/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator Normal Shutdown
AGR-CBI	001723	001726	2/6/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator Emergency Shutdown
AGR-CBI	001727	001729	2/20/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Plate and Frame Heat Exchanger Normal Start-up
AGR-CBI	001730	001738	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Air Compressor Normal Startup
AGR-CBI	001739	001750	2/6/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator Normal Startup
AGR-CBI	001751	001753	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Cooling Tower Normal Startup
AGR-CBI	001754	001757	2/18/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Fluoride Vent Scrubber Normal Startup
AGR-CBI	001758	001760	1/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Starting Up a Green Acid Line to Phos
AGR-CBI	001761	001763	1/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Starting Up a Green Acid Line to PPA
AGR-CBI	001764	001764		File Cover			Sub-File cover sheet, "Normal Operation" (documents located at AGR-CBI 001764-001874)
AGR-CBI	001765	001769	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Startup and Shutdown of Fire Pump System
AGR-CBI	001770	001774	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Startup, Shutdown, and Regeneration of the WAC Water
AGR-CBI	001775	001777	2/18/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator De-Super Heater Normal Operation

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AGR-CBI	001778	001780	2/24/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Operation Auto Samplers
AGR-CBI	001781	001784	2/25/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Sampling
AGR-CBI	001785	001788	3/19/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Filling SCBA Bottles from the Cascade System
AGR-CBI	001789	001791	2/24/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Operation of the Green Acid Storage Sump
AGR-CBI	001792	001797	2/19/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator Boil Out
AGR-CBI	001798	001802	3/3/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Operation of the Deluge Sprinkler Controls
AGR-CBI	001803	001807	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Load WAC Water Unit with Sub- fill and Resin
AGR-CBI	001808	001812	3/17/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Unloading Bulk Chemical Trucks
AGR-CBI	001813	001816	2/25/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Startup, Shutdown, and Operation of Tank Heaters
AGR-CBI	001817	001821	3/19/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Reverse Cooling Tower Fans
AGR-CBI	001822	001825	2/25/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Refill Caustic Tote from Storage Tank
AGR-CBI	001826	001829	2/25/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Tank Wash Outs (Green Acid Tanks)
AGR-CBI	001830	001833	2/24/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Line Wash Outs (Green Acid)
AGR-CBI	001834	001837	2/20/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Pressure Checking the 52% Evaporator
AGR-CBI	001838	001841	3/6/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal and Emergency Shutdown of Air Compressor & Air
AGR-CBI	001842	001845	4/6/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Water Blasting
AGR-CBI	001846	001849	2/6/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator Normal Operation
AGR-CBI	001850	001852	2/20/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Plate and Frame Heat Exchanger Cleaning

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AGR-CBI	001853	001855	2/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Operation 52% Wash Tank
AGR-CBI	001856	001858	2/20/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Draining the 52% Hot Well Tank
AGR-CBI	001859	001861	3/19/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Compressed Breathing Air Storage Bank Cylinder Change Out
AGR-CBI	001862	001864	12/25/2002	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, 52% Evaporator Steam Jet Cleaning
AGR-CBI	001865	001867	12/6/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Operation of the Center and South Cooling Tower Fans
AGR-CBI	001868	001874	3/20/2003	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: PPA Plant, Normal Operating Procedure for Operator Expectations

PPA Evap

AGR-CBI_001697

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Shut Downs

AGR-CBI_001698

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES

Agrium

Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Cooling Tower Normal Shutdown

PPA-05-725.002
3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Shutdown of the Cooling Tower.

Requirements: The Cooling Tower must be in service.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	Check with the Environmental Department before Disposing of residue in Cooling Basin.

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AGR-CBI_001699

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Cooling Tower Normal Shutdown

TASKS:

1. Open valves
2. Close valves
3. Stop Pumps
4. Clear and concise radio communications

Steps	Key Points	PPE/Hazards
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Shutdown the Cooling Tower

1.	Make proper notifications of Shutdown to all affected personnel.		
2.	Shutdown the following Chemical Injections Pumps: <ul style="list-style-type: none"> • Bio-Control Pump • Dispersant Pump • Inhibitor Pump 		
3.	Shutdown the following Cooling Tower Fans: <ul style="list-style-type: none"> • South Fan • Center Fan • North Fan 		
4.	Shutdown all Cooling Tower Pumps: <ul style="list-style-type: none"> • South Cooling Water Pump • North Cooling Water Pump • Middle Cooling Water Pump 		
5.	Close the following Control Valves: <ul style="list-style-type: none"> • WAC Makeup Water, (LIC-8618) • Cooling Water to Utility Water, (FIC-12113-A) • Sulfuric Acid pH Control, (AV-18618) • XV-17621 WAC Water Resin Bypass Valve • XV-19621 WAC Water Resin Bypass Valve 		

Cooling Tower Normal Shutdown

Steps	Key Points	PPE/Hazards
<p>6. Close the following Manual Valves:</p> <ul style="list-style-type: none"> • 1-inch Plug Valve upstream of Sulfuric Acid pH Control, (AV-18618) • 18-inch Butterfly Valve on Cooling Water Return to the North Cell • 18-inch Butterfly Valve on Cooling Water Return to the Center Cell • 18-inch Butterfly Valve on Cooling Water Return to the South Cell • 18-inch Butter Fly Suction Valve on South Cooling Water Pump • 20-inch Butter Fly Discharge Valve on South Cooling Water Pump • 18-inch Butter Fly Suction Valve on Center Cooling Water Pump • 20-inch Butter Fly Discharge Valve on Center Cooling Water Pump • 18-inch Butter Fly Suction Valve on North Cooling Water Pump • 20-inch Butter Fly Discharge Valve on North Cooling Water Pump 		

Draining the Cooling Tower

1.	Open Cooling Tower Blow down Flow Controller, (FIC-12113-B).		
2.	When Cooling Tower basin level reaches 0% on Cooling Water Basin Level Controller, (LIC-12113), go to the next step of this procedure.		

Cooling Tower Normal Shutdown

Steps		Key Points	PPE/Hazards
3.	Close Cooling Tower Blow down Flow Controller, (FIC-12113-B).		
4.	Close the 4-inch Gate Valve upstream of Cooling Tower Blow down Flow Controller, (FIC-12113-B).		

CAUTION

ANY MUD OR RESIDUE FROM THE COOLING TOWER THAT IS CLEANED OUT MUST BE DISPOSED OF PROPERLY. CONTACT THE ENVIRONMENTAL DEPT.

5.	Open Drain Valve on Cooling Water Basin to old East plant cooling tower basin.		
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Prepare Cooling Tower for Repair Work

1.	LOCK OUT, TAG OUT and try the following switchgear: <ul style="list-style-type: none"> • Cooling Tower Fans: <ol style="list-style-type: none"> 1. South 2. Center 3. North • Cooling Water Pumps <ol style="list-style-type: none"> 1. South 2. Center 3. North • Chemical Injection Pumps <ol style="list-style-type: none"> 1. Bio Control Pump 2. Dispersant Pump 3. Inhibitor Pump 		
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Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Agrium

Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Plate and Frame Heat Exchanger Normal Shutdown

PPA-04-120-.003

2/17/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Shutdown of the Plate and Frame Heat Exchanger.

Requirements: When a Plate and Frame Heat Exchanger has reduced heat transfer, increased pressure drop, reduced flow rate, visible leaks, or time for routine inspection or maintenance, it will be necessary to shutdown a Heat Exchanger.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

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AGR-CBI_001704

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Plate and Frame Heat Exchanger Normal Shutdown

TASKS:

1. Close Valves

Steps	Key Points	PPE/Hazards
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CAUTION

ALWAYS CLOSE INLET VALVES ON THE PLATE AND FRAME HEAT EXCHANGER BEFORE SHUTTING THE OUTLET VALVES TO PREVENT OVER PRESSURIZING UNIT, WHICH COULD RESULT IN BROKEN PLATES, DAMAGE TO FRAME, OR BLOWN GASKETS.

NOTE

IF BOTH 52% RE-CIRCULATION PUMPS ARE RUNNING, AT LEAST 2 HEAT EXCHANGERS WILL BE REQUIRED TO PREVENT OVER PRESSURING UNITS. IF THERE WILL BE NO HEAT EXCHANGERS OPERATING, THEN ATLEAST ONE COOLING TOWER CIRCULATION PUMP SHOULD BE SHUT DOWN TO PREVENT OVER PRESSURING THE COOLING WATER LINE.

1.	Close inlet valve on the process condensate water.		
2.	Close outlet valve on the process condensate water.		
3.	Close inlet valve on the cooling water.		
4.	Close outlet valve on the cooling water.		
5.	Using low point valves, drain both sides of the Heat Exchanger to a safe location.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Cooling Tower Emergency Shutdown

PPA-05-720.002

3/3/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform an Emergency Shutdown of the Cooling Tower.

Requirements: Cooling Tower must be in service.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No Special PPE requirements are needed.	N/A	N/A

Cooling Tower Emergency Shutdown

TASKS:

1. Stop fans
2. Close valves
3. Stop pumps

Steps	Key Points	PPE/Hazards
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NOTE

ALL UNITS THAT ARE AFFECTED BY THE EMERGENCY SHUTDOWN OF THE COOLING TOWER MUST BE NOTIFIED.

DANGER

ALL SPILLS MUST BE CONTAINED AND CLEANED UP AS SOON AS POSSIBLE. REPORT ALL SPILLS TO THE ENVIRONMENTAL DEPARTMENT AS SOON AS POSSIBLE.

1.	Make proper notifications of Emergency Shutdown to all affected personnel.		
2.	Shutdown the following Cooling Tower Pumps and block the discharge valve(s): <ul style="list-style-type: none">• South Cooling Water Pump• Center Cooling Water Pump• North Cooling Water Pump		
3.	Shutdown the following Cooling Tower Additive Pumps: <ul style="list-style-type: none">• Bio-Control Pump• Dispersant Pump• Inhibitor Pump		

Cooling Tower Emergency Shutdown

Steps		Key Points	PPE/Hazards
4.	Close and isolate the following valves: <ul style="list-style-type: none">• WAC Makeup Water, (LIC-8618)• Cooling Water Blow Down, (FIC-12113-B)• Cooling Water to Utility Water, (FIC-12113-A)• Sulfuric Acid pH Control, (AV-18618).		
5.	Shutdown the following Cooling Tower Fans: <ul style="list-style-type: none">• North Fan• Center Fan• South Fan		

Cooling Tower Emergency Shutdown



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

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AGR-CBI_001710

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

52% Evaporator Normal Shutdown

PPA-04-025.003

2/6/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Shutdown of the 52% Evaporator.

Requirements: The 52% Evaporator must be periodically shutdown to perform routine maintenance, boil out, or routine inspections.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	If the area is to be shutdown for an extended period of time or equipment will be opened, be prepared for process leaks. Notify supervision when leaks have been discovered.

52% Evaporator Normal Shutdown

TASKS:

1. Communications between PPA and PHOS DCS Operators
2. Clear and concise radio communications
3. Open and Close Valves
4. Start and Stop pumps
5. Inspection of equipment
6. Shutdown of the Plate and Frame Heat Exchangers
7. Shutdown Steam Jets

52% Evaporator Normal Shutdown

Steps	Key Points	PPE/Hazards
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Pre-Shutdown

1.	Verify that the level in the 52% Acid Surge Tank is low enough to accept approximately 30,000 gal of acid from the evaporator.		
2.	Verify the 52% Wash Tank is over 70% full.		
3.	Verify the temperature of the 52% Wash Tank is approximately 185 F.		

Shutdown the 52% Evaporator Heater

NOTE

TO DISSIPATE RESIDUAL HEAT IN THE HEAT EXCHANGER, THE CIRCULATION PUMP SHOULD BE KEPT IN OPERATION FOR AT LEAST 30 MINUTES AFTER STOPPING FLOW OF LOW-PRESSURE STEAM.

1.	Contact Phos DCS operator to let them know that you are going to shutdown the 52% Evaporator and to have them shut off 30% Feed Acid.		
2.	Contact North Plant Operator and let them know you are going to shutdown the 52% Evaporator. Place FV-2202 in "Manual" and slowly close FV-2202.		
3.	Close Feed Flow Valve FIC-2202.		

52% Evaporator Normal Shutdown

Shutdown the Product Flow

1.	Shutdown the 52% Acid Transfer Pump.		
2.	Close the suction and discharge valves on the 52% Acid Transfer Pump.		

Shutdown the 52% Condensate

1.	Shutdown the 52% Condensate Pump.		
2.	Shutdown the boiler feed pump going to the East Plant.		
3.	Close the suction and discharge valves on the 52% Condensate Receiver.		
4.	Drain the 52% Condensate Receiver.		

NOTE

IF THE EVAPORATOR IS TO BE RESTARTED WITHOUT DRAINING THE ACID, END SHUTDOWN ACTIVITIES HERE AND LEAVE THE EVAPORATOR IN A "STAND-BY" MODE.

Shutdown the Vacuum System

1.	Close 3" gate valve upstream of PI-3201, blocking the medium pressure steam flow to the ejectors.		
2.	Adjust set point of PIC-4202 to bring vessel to ambient pressure.		
3.	Open 2" globe vent valve to atmosphere downstream of PV-4202.		

Shutdown Acid Circulation

52% Evaporator Normal Shutdown

NOTE

TO DISSIPATE RESIDUAL HEAT IN THE HEAT EXCHANGER, THE CIRCULATION PUMP SHOULD BE KEPT IN OPERATION FOR AT LEAST 30 MINUTES AFTER STOPPING FLOW OF LOW-PRESSURE STEAM.

1.	Shutdown the 52% Circulation Pump.		
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Drain the Evaporator

1.	Close 8" plug valve on suction of the 52% Transfer pump (valve E7) Figure 1.		
2.	Open 4" plug valve on Evaporator Drain to Transfer Pump suction (valve E3).		
3.	Ensure Transfer Pump discharge valve is open (valve E8).		
4.	Start the 52% Transfer Pump to the 52% Acid Surge Tank.		

Line up Drain Pump to the Acid Surge Tank

5.	Ensure the 8" plug valve on the Drain/Fill line at the Evaporator is closed (valve E2).		
6.	Open the 10" plug valve on the Evaporator to the Drain Pump suction (valve E4).		
7.	Open the 8" discharge valve on the Drain Pump (valve E1).		
8.	Ensure the 8" plug valve on the discharge of the Wash/Drain Pump to the Drain/Refill line is closed (valve AA). Figure 2		
9.	Ensure the (2) 8" isolation valves at the Wash/Drain Pump discharge are open (valves E5 and E6).		
10.	Ensure the 8" plug valve on the Drain/Refill line is open at the Acid Surge Tank.		
11.	Start the 52% Drain Pump.		

52% Evaporator Normal Shutdown

Shutdown Drain Pumps (when the Evaporator is empty)

12.	Shutdown the 52% Acid transfer Pump.		
13.	Close the pump discharge (valve E8).		
14.	Shutdown the 52% Drain Pump.		
15.	Close the pump discharge (valve E1).		
16.	Close the pump suction (valve E4).		

Shutdown Process Condensate

CAUTION

THE 52% HOT WELL TANK IS RATED FOR ONLY 4" WG (NEGATIVE PRESSURE). THE DOWN LEG OF THE BAROMETRIC CONDENSER IS 1 FOOT OFF THE BOTTOM OF THE TANK. DURING NORMAL OPERATION OF THE SYSTEM, THE SUCTIONS OF THE PUMPS ARE ABOVE THE DOWN LEG, WHICH MEANS THE LEVEL CANNOT BE SUCKED BELOW THE DOWN LEG. IN THE EVENT THAT THE 52% HOT WELL NEEDS TO BE DRAINED THROUGH THE BOTTOM TANK DRAIN VALVE, ALL VACUUM MUST BE SHUT OFF TO THE EVAPORATOR AND BLED OFF AS NOT TO PUT THE TANK UNDER NEGATIVE PRESSURE. COLLAPSE OF THE TANK COULD RESULT.

Shutdown the Inner Condenser

1.	Close the 3" plug valve on the Process Condensate line, up stream of the inner condenser.		
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Shutdown the Barometric Condenser

2.	If flow to the Barometric Condenser is to be shutdown, stop both Hot well Circulation Pumps.		
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Shutdown the 52% Water Coolers

52% Evaporator Normal Shutdown

3.	Close the 18" butterfly valves on the Process Condensate inlet to each of the (3) 52% Water Coolers.	See Procedure PPA-04-035 Normal Shutdown of the Plate and Frame Exchangers	
4.	Close the 18" butterfly valves on the Process Water outlet to each of the (3) 52% Water Coolers.		
5.	Close the 12" butterfly valves on the Cooling Water inlet to each of the (3) 52% Water Coolers.		
6.	Close the 12" butterfly valves on the Cooling Water outlet from each of the (3) 52% Water Coolers.		

NOTE

THE FOLLOWING SECTION IS TO RINSE THE EVAPORATOR FOR A BRIEF INSPECTION. IN SOME CASES THE "RINSE" SECTION WILL BE SKIPPED AND THE EVAPORATOR WILL BE "BOILED OUT" AND THE INSPECTION WILL TAKE PLACE AFTER THE BOIL OUT IS COMPLETE.

Rinse the 52% Evaporator with hot water

Rinse Evaporator to Recover Acid Remaining in the Belly Section and tube bundle

1.	Close 3" manual valve on 50 gpm 52% Wash Pump going into the #1 Cake Slurry Tank.		
2.	Open the 4" manual valve on the spare 52% Evaporator Feed line.		
3.	Open the 52% Evaporator Automatic Feed Valve 100%		
4.	Close the 4" manual feed valve on the 52% Evaporator Primary Feed Line.		
5.	Start the 52% Wash Pump (50 gpm).		
6.	Start the 52% Product Transfer Pump to the 52% Surge Tank.		

52% Evaporator Normal Shutdown

NOTE

IT WILL TAKE APPROX. 20 TO 30 MINUTES TO RINSE THE EVAPORATOR.
CHECK THE PRODUCT SAMPLE PORT TILL THE ACID IS DILUTED AND
REMAINING ACID IS RECOVERED.

Shutdown the Rinse Cycle

7.	Stop the 52w% Wash Pump (50 gpm).		
8.	Stop the 52% Product Transfer Pump.		

Inspect Tubes

Open tube bundle

1.	Open the top tube bundle door and inspect for plugged tubes and check build up on the tube surface.		Face Shield and Rubber Gloves/There is an increased risk for acid exposure and thermal exposure due to warm vapors escaping while pulling bundle door.
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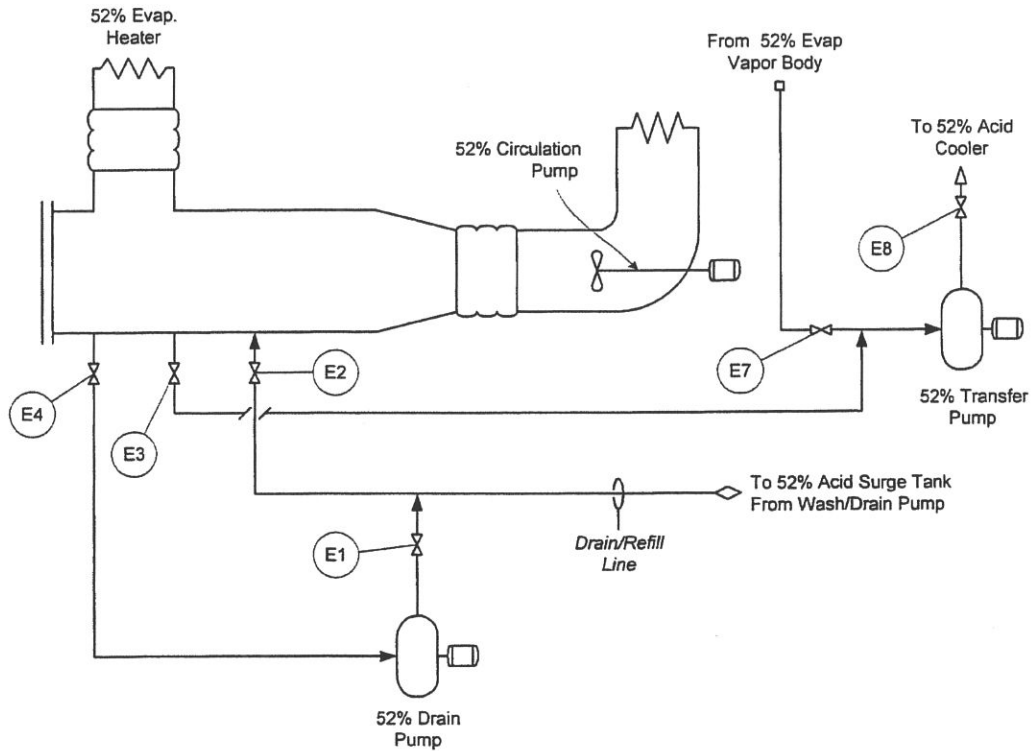
Clean tubes

2.	Water blast plugged tubes if necessary.	See Procedure PPA-02-040 for Water Blasting an Evaporator	
3.	Reassemble the top tube bundle door.		
4.	Clean and reassemble steam jets as required or needed.	See Procedure PPA-04-040 for Steam Jet Cleaning	

52% Evaporator Normal Shutdown

Illustrations

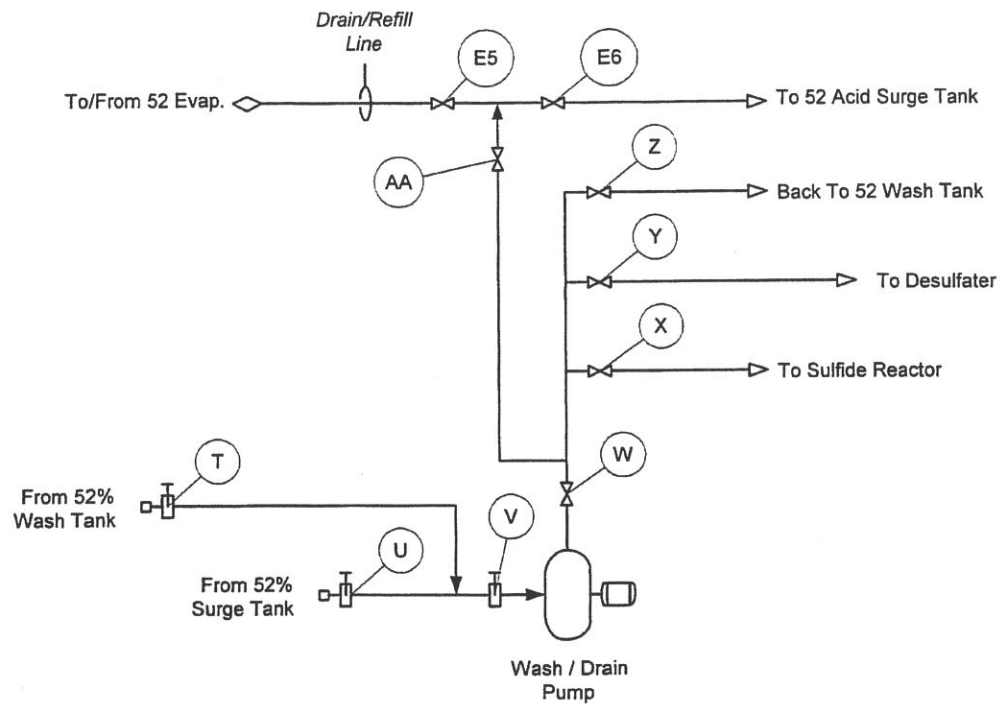
Figure 1: Drain



52% Evaporator Normal Shutdown

Illustrations (cont.)

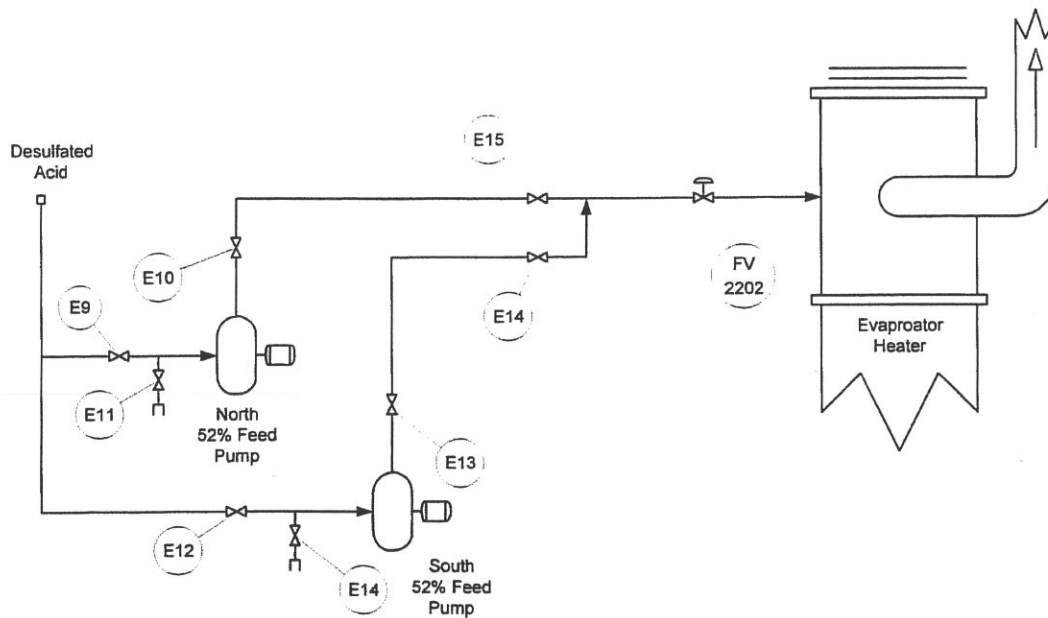
Figure 2: Drain



52% Evaporator Normal Shutdown

Illustrations (cont.)

Figure 2: Feed line Wash





Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Agrium

Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

52% Evaporator Emergency Shutdown

PPA-04-020.003

2/6/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform an Emergency Shutdown of the 52% Evaporator.

Requirements: Because the potential causes for initiating an emergency shutdown are so numerous it is not possible to provide a step-by-step shutdown procedure that would be adaptable to any and all emergency circumstances.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	Notify supervision when leaks have been discovered.

TASKS:

1. Clear and concise radio communications
2. Start and stop pumps
3. Open and close valves

Page 1 of 3

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52% Evaporator Emergency Shutdown

4. Communications between PPA and Phos Acid Plant

Steps	Key Points	PPE/Hazards
1. Shut off the Low-pressure steam flow to the heat exchanger immediately in an emergency shutdown situation by closing FIC-1202, Notify North Plant Operator as soon as possible.		
2. Contact Phos DCS Operations to shut off the 27% feed acid to the evaporator immediately after stopping the steam flow.		
3. Close FIC-2202.		

NOTE

IF POSSIBLE KEEP THE CIRCULATION PUMP RUNNING AT LEAST 30 MINUTES TO AVOID OVERHEATING THE ACID INSIDE THE HEATER TUBES (DUE TO RESIDUAL HEAT IN THE MASS OF THE TUBES AND TUBE SHEET).

4. Shut off Circulation Pump if necessary.		
5. If possible, maintain vacuum on the system to induce evaporative cooling of the acid and to minimize the danger of local hot spots, which could damage the rubber lining.		
6. Stop the Condensate Pump when there is no longer any condensate flow and isolate suction and discharge valves and drain.		
7. Shut off the Boiler Feed Pump going to the East Plant and notify East Plant Operator of shutdown.		
8. In case it is necessary to shutdown the evaporator for an extended period of time, drain the evaporator as for a boil out.	See Procedure for 52% Evaporator Normal Shutdown (PPA-04-025) and Boil Out (PPA-04-045).	



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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Start-ups

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Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Plate and Frame Heat Exchanger Normal Start-up

PPA-04-115.002
2/20/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Startup of a Plate and Frame Heat Exchanger.

Requirements: Because of the numerous sealing surfaces associated with the Plate and Frame Heat Exchanger there is the increased potential for leaks during startup. The immediate area should be secure during initial startup to prevent potential exposure.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

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Plate and Frame Heat Exchanger Normal Start-up

TASKS:

1. Open valves
2. Monitor equipment for leaks or increased pressure
3. Monitor equipment for temperature

Steps	Key Points	PPE/Hazards
1. Inspect equipment to ensure equipment if ready to be brought into service.		

NOTE

THERMO SHOCK OR EXTREME PRESSURE CHANGES CAN DAMAGE PLATES AND BLOW GASKETS. OPEN INLET VALVES SLOWLY TO PREVENT RADICAL PRESSURE AND TEMPERATURE CHANGES.

2.	Open outlet valve on the cooling water.		
3.	Slowly open the inlet valve on the cooling water.		
4.	Inspect for cooling water leaks.		
5.	Open outlet valve on the process water.		
6.	Slowly open inlet valve on the process water.		
7.	Inspect for process water leaks.		



Conda Phosphate Operations

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Air Compressor Normal Startup

PPA-05-315.002
3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Startup of the Air Compressors.

Requirements: All equipment is purged and ready for service, all switchgear is unlocked and energized, and all instruments are unblocked and in service.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Air Compressor Normal Startup

TASKS:

1. Open valves
2. Close valves
3. Startup Compressor

Steps	Key Points	PPE/Hazards
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Normal Startup of the Ingersoll-Rand Air Compressor

NOTE

THE STARTER IS COMPLETELY AUTOMATIC AND CONTROLLED BY THE INTELLISYS CONTROLLER.

NOTE

THE INLET VALVE IS OPENED AND CLOSED BY A STEPPER MOTOR MOUNTED ON THE INLET VALVE. THE INTELLISYS CONTROLLER REGULATES THE STEPPER MOTOR AND PRECISELY POSITIONS THE INLET VALVE BASED UPON THE DEMAND OF THE PLANT AIR SYSTEM.

NOTE

THE COMPRESSOR WILL ALWAYS START IN THE UNLOAD MODE.

1.	Push the start button at the compressor control panel.		
2.	The following action will occur: <ul style="list-style-type: none">• Verify inlet valve is nearly closed.• Verify blow down solenoid valve is open.• The Intellisys will open the inlet valve slightly to maintain the proper sump pressure to ensure positive coolant flow and smooth quiet operation.		
3.	When the injected coolant temperature is less than 120°F, a separator (sump) pressure of 45 to 50 psig is maintained.		

Air Compressor Normal Startup

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

THE CHECK VALVE WILL PREVENT ANY BACK FLOW OF AIR FROM THE PLANT AIR SYSTEM DURING UNLOADED OPERATION.

4.	When the injected coolant temperature is above 120°F, a receiver of 24 to 33 psig is maintained.		
----	--	--	--

On-Off Line Control

NOTE

IF PPA HAS A WIDELY VARYING AIR DEMAND, "ON/OFF" LINE CONTROL WILL DELIVER AIR AT FULL CAPACITY. THE COMPRESSOR IS CONTROLLED BY THE INTELLISYS, RESPONDING TO CHANGES IN PLANT AIR PRESSURE.

1.	The Intellisys Stepper Motor opens the inlet valve and closes the blow down valve whenever plant air pressure drops below the on-line pressure set point.		
2.	The compressor will then operate to deliver full capacity air to the plant system.		
3.	If the plant air system pressure rises to the off line set point of the Intellisys, the inlet valve closes and the blow down solenoid valve opens the separator vent line, allowing separator pressure to drop.		
4.	The compressor will continue to run with minimum power draw.		

Dryer System Startup

1.	Open the inlet isolation valve admitting compressed air to the dryer so as to prevent fluidization of the desiccant bed.		
----	--	--	--

Air Compressor Normal Startup

Steps	Key Points	PPE/Hazards
2.	The dryer outlet isolation valve should be closed at this time. At this point all dryer valves are in their "normal" position.	
3.	Ensure the control air isolation valve is open.	
4.	Remove any protective plugs from control solenoid exhaust ports; exhaust valves, or safety valves.	
5.	The emergency stop button should be in.	

CAUTION

EMERGENCY STOP BUTTON SEVERES 115V CONTROL VOLTAGE BUT NOT MAIN POWER.

6.	Place the mode select switch in the "Heatless" Mode.		
7.	Energize the electrical circuit via the main disconnect. Plus check rotation of blower, it should be clockwise.		
8.	Pull the emergency stop button out.		
9.	Push the start button, the dryer will begin to cycle and one tower will exhaust all of its pressure to atmosphere.		

NOTE

THE VALVE SYSTEM IS FAIL-SAFE, ON POWER FAILURE, INLET VALVES OPEN AND EXHAUST VALVES CLOSE, ALLOWING FLOW THROUGH BOTH TOWERS.

10.	After the system cycles 2or3 times allow both tanks to become pressurized.		
11.	This will happen just before the tanks switch cycles. At this point turn the mode select switch to heat.		

Air Compressor Normal Startup

Steps	Key Points	PPE/Hazards
12.	Slowly open the outlet isolation valve. At this point all dryer valves are in their "normal operating" positions, air is flowing through one tower and down stream.	

NOTE BYPASS VALVE MUST BE BUBBLE TIGHT TO PREVENT UN-DRIED AIR FROM MIGRATING AROUND THE DRYER.		
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13.	Close dryer bypass valve.	
-----	---------------------------	--

Modulation/ACD Control		
-------------------------------	--	--

NOTE IF PPA PLANT HAS RELATIVELY HIGH, CONSTANT AIR-DEMAND RELATIVE TO THE COMPRESSOR CAPACITY, THE RECOMMENDED CONTROL MODE IS MODULATION.		
--	--	--

1.	The modulation control system retains the features of "ON/OFF" line control, but provides for throttling of the inlet flow up to the modulation off line air pressure set point.	
----	--	--

NOTE THE MODULATING PRESSURE RANGE IS 10 PSIG.		
---	--	--

2.	The throttling position of the inlet valve is controlled by the, Intellisys, allowing the stepper motor to trim the inlet valve position as dictated by the line pressure.	
3.	Modulation begins when the line pressure reaches the "OFF- LINE SETTING MINUS 3 PSIG".	

Air Compressor Normal Startup

Steps	Key Points	PPE/Hazards
4.	Modulation becomes stable when the compressor output equals the plant demand.	

NOTE

WHEN THE MODULATION IS AT THE FACTORY SETTING THE MAXIMUM CAPACITY REDUCTION WILL BE DOWN TO APPROXIMATELY 60 PERCENT OF THE COMPRESSOR RATED CAPACITY.

5.	If the air demand has decreased to a level below the 60 percent modulation output, the line pressure will increase slightly to actuate the Intellisys, unloading the compressor and venting the separator.	
6.	The automatic control selector (ACS) is designed to continuously monitor the plant air demand and select either the "ON /OFF LINE" or, the modulate control mode whichever is most desirable.	
7.	When the compressor operates in the on-off control mode, the length of the time the compressor remains in the "OFF LINE" condition is an indication of the plant air demand.	
8.	Intellisys controller is sensing and awaiting a sufficient line pressure decrease before signaling a shift to the on line mode.	
9.	If the "OFF LINE TIME PERIOD" is relatively short, there by indicating a high demand for air, it is preferable to shift the control system to upper range modulation.	

NOTE

THE INTELLISYS DOES THIS AUTOMATICALLY IF THE COMPRESSOR UNLOADS 3-TIMES WITHIN 3-MINUTE TIME PERIOD.

Air Compressor Normal Startup

Steps	Key Points	PPE/Hazards
10.	If the plant demand decreases, and even under MODULATE CONTROL the line pressure reaches the setting of the Intellisys controller and the control shifts to the "OFF LINE MODE", the time in this mode will still be monitored.	
11.	A long off line time period indicating a low plant air demand, indicating the desirability of operating in the on-off line mode.	

NOTE

THE INTELLISYS THEN DOES THIS AUTOMATICALLY IF THE COMPRESSOR OPERATES UNLOADED FOR MORE THAN 3-MINUTES.

12.	If modulation only is turned "ON" in the set point routine, the unit will shift to MODULATION CONTROL MODE immediately when the unit is running.	
13.	The 3-cycles within 3-minutes time period required for Automatic Control Selector, (ACD) to change to modulation mode is bypassed.	
14.	The unit will stay in modulation mode until, the unload button is pressed or the mode of operation set point is changed.	

Air Compressor Normal Startup

Steps	Key Points	PPE/Hazards
-------	------------	-------------

Delay Load Time

NOTE

THIS IS THE AMOUNT OF TIME THE PRESSURE MUST REMAIN BELOW THE OUTLINE SET POINT BEFORE THE COMPRESSOR WILL START OR (IF THE UNIT WAS STOPPED DUE TO AN AUTO START /STOP SITUATION). THE TIMER WILL NOT DELAY LOADING AFTER A START OR IF THE TIME IS SET TO 0 (ZERO),. WHEN THE DELAY LOAD TIMER BECOMES ACTIVE, THE DISPLAY WILL SHOW THE DELAY LOAD COUNTDOWN. ONCE THE COUNTDOWN REACHES 0 (ZERO), THE UNIT WILL LOAD OR START.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

52% Evaporator Normal Startup

PPA-04-015.003
2/6/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Startup of the 52% Evaporator in a controlled manner to eliminate damage to existing equipment, cause a release, or cause serious injuries to personnel.

Requirements: After the initial startup with acid, most normal startups follow a normal boil out. In this case, the Flash Chamber, the Heat Exchanger, and the circulating piping are clean and empty. The major connections generally have been broken so the units should be water tight and vacuum tight.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

TASKS:

1. Communications between PPA, PHOS DCS, North Plant, and East Plant Operators
2. Clear and concise radio communications
3. Open and Close Valves
4. Start and Stop pumps
5. Inspection of equipment to ensure it is ready to receive acid
6. Startup of the Plate and Frame Heat Exchangers
7. Start Steam Jets

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52% Evaporator Normal Startup

52% Evaporator Normal Startup

Steps	Key Points	PPE/Hazards
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Pre-Startup

1.	Verify all manholes have been properly closed and all valves to and from the equipment are closed.		
2.	Open the valve on the Atmospheric vent line of the Evaporator Heat Exchanger (shell side).		
3.	Close the manual valve that vents to Atmosphere, down stream of PV-4202.		
4.	Ensure Pressure control valve PV-4202 is open.		

Refill the Evaporator

Line up Wash/Drain Pump

1.	Ensure 10" Knife valve off of the 52% Wash tank to Wash/Drain Pump suction is closed (valve T).		
2.	Open the 10" Knife valve of of the 52% Acid Surge Tank to Wash/Drain Pump suction (valve U).		
3.	Open the 10" Knife valve on the suction of the Wash/Drain Pump (valve V).		
4.	<p>Ensure the following valves on the discharge of the Wash/Drain Pump are closed.</p> <ul style="list-style-type: none"> • The 8" plug valve to the 52% Wash tank (valve Z). • The 4" plug valve to the Desulfater line wash (valve Y). • The 4" plug valve to the Sulfide Reactor (valve X). 		

52% Evaporator Normal Startup

5.	<p>Ensure the following valves on the bottom of the Evaporator Heater are closed:</p> <ul style="list-style-type: none"> • The 10" plug valve to the 52% Drain Pump Suction (valve E4). • The 8" plug valve on the 52% Drain Pump Discharge (valve E1). • The 4" plug valve to the suction of the 52% Transfer Pump (valve E3). 		
6.	Close the 8" plug valve on the line from the Wash/Drain Pump discharge to the 52% Acid Surge Tank (valve E6).		
7.	Open the 8" plug valve on the Drain/Refill line at the 52% Heater (valve E2).		
8.	Open the 8" plug Isolation valve from the Wash/Drain Pump to the Drain/Refill line (valve AA).		
9.	Crack-open the Discharge valve off of the Wash/Drain Pump (valve W).		

Start filling the 52% Evaporator with the Wash/Drain Pump

10.	Have DCS Operator start the Wash/Drain Pump.		
11.	Slowly open the discharge valve on the Wash/Drain Pump to full open.		
12.	Fill the evaporator with acid from the 52% Acid Surge Tank using the Wash/Drain Pump.		

Verify the Evaporator is Full

13.	Open the sample valve in the acid discharge line.		Possible exposure to 52% Acid/PPE to include: work gloves, safety glasses, and chemical goggles.
-----	---	--	--

52% Evaporator Normal Startup

14.	When the 52% acid level reaches the normal overflow, acid will flow out of the sample valve. Once you get acid close the valve.		
15.	Confirm level drop in the 52% Surge Tank is enough to fill the Evaporator.		

Shutdown the acid transfer to the Evaporator

16.	Shutdown the Wash/Drain Pump.		
17.	Close the following Valves: <ul style="list-style-type: none"> • The pump discharge (valve W). • The pump suction (valve V). • The header valve at the Acid Surge Tank (valve U). • The 8" plug valve on the Drain/Refill line at the 52% Heater (valve E2). • The 8" plug Isolation valve from the Wash/Drain Pump to the Drain/Refill line (valve AA). 		

Start Cooling Water

Cooling Water to 52% Water Coolers

1.	Ensure that the 24" Butterfly valves on the main Cooling Water Supply and Cooling Water Return lines to the Water Coolers are open.	See procedure PPA-04-035 for Normal Startup of the Plate and Frame Heat Exchangers.	
2.	Open the 12" Butterfly valves on the Cooling Water Return of each of the (3) three 52% Water Coolers.		
3.	Slowly open the 12" Butterfly valves on the Cooling Water Supply of each of the (3) 52% Water Coolers.		

52% Evaporator Normal Startup

Start Process Condensate

Process Condensate to the 52% Water Coolers, Barometric Condenser and the 52% Inner Condenser

1.	Ensure 3" Plug valve upstream of SV-5303C (to acid cooler) is closed.		
----	---	--	--

Line up Process Condensate to Inner Condenser

2.	Open the 3" plug valve upstream of the 52% Inner Condenser inlet.		
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Line up Process Condensate to Coolers

3.	Open the outlet valves (18" Butterfly valves) from each of the (3) 52% Water coolers.		
4.	Open the inlet valves (18" Butterfly valves) to each of the (3) 52% Water Coolers.		

Line up and start the North Re-circulation Pump

5.	Ensure there is a 50% level in the 52% Hot Well.		
6.	Open the Suction valve (20" Butterfly valve) on the 52% Hot Well to the North Re-circulation Pump.		
7.	Open the 18" Butterfly valve on the discharge of the North Re-circulation Pump.		
8.	Ensure the plug valve to the Acid Sewer is closed.		
9.	Ensure the plug valve to the Belt Filter is closed.		
10.	Start the North 52% Re-circulation Pump.		

Start Vacuum

52% Evaporator Normal Startup

1.	Ensure Medium Pressure Steam Trap associated with Ejector Steam is in service.		
2.	Start medium pressure steam flow to the second stage jet.		
3.	Start medium pressure steam flow to the first stage jet.		
4.	Open gate valve down stream of PV-4202.		
5.	Set the Evaporator Pressure Controller to "Manual" 100% closed (PV-4202).		
6.	Close the vacuum break valve in the vent line.		

Start Evaporator Circulation

NOTE

THERE ARE SPECIFIC STARTUP RESTRICTIONS ASSOCIATED WITH 4160 VOLT CIRCULATION PUMP MOTOR WHICH MUST BE ADHERED TO, TO SUCCESSFULLY PERFORM STARTUP

- NUMBER OF STARTS, COASTING TO RESET BETWEEN STARTS.
- ONLY 2 STARTS ALLOWED WITH MOTOR INITIALLY AT AMBIENT TEMPERATURE (COLD).
- ONLY 1 START ALLOWED WITH MOTOR AT OPERATING TEMPERATURE (HOT).
- COOLING PERIOD AFTER EITHER OF THE ABOVE BEFORE MAKING AN ADDITIONAL START.
- 30-MINUTE MOTOR RUNNING AT LOAD.
- 20-MINUTE MOTOR RUNNING EQUIPMENT UNLOADED (RUN IN ONLY).
- 60-MINUTE MOTOR DE-ENERGIZED COASTED TO RESET AND LEFT IDLE (HOT SHUTDOWN).

1.	Start the Evaporator Circulation Pump.		
----	--	--	--

52% Evaporator Normal Startup

2.	Flush the seal in order to keep the seal from leaking acid and to help eliminate solids from plugging up the mechanical flush line.		
----	---	--	--

Begin Acid Feed

1.	Notify Phos DCS Operator that you are ready to receive 30% acid.		
2.	Place FIC-2202 in "Manual" and set on 20% open.		
3.	Adjust FIC-2202 as required.		

Start 52% Evaporator Heater

1.	Ensure the Desuperheater is running and the steam temperature is below 270 F.		
2.	Open the gate valve ahead of FT-1202.		
3.	Ensure steam trap ahead of FV-1202 is in service.		
4.	Contact North Plant Operator to let them know you are bringing on the 52% Evaporator.		
5.	Slowly begin low-pressure steam flow to the evaporator heat exchanger using the 2" bypass around FV-1202.	Using the 2" by-pass valve to warm up heater will help prevent tube breakage.	
6.	Check the non-condensable vent valve in the steam condensate system. When most of the air has been purged from the system, this valve should be closed.		
7.	Close the 2" bypass valve.		

52% Evaporator Normal Startup

CAUTION

DURING STARTUP PUT THE STEAM CONTROLLER IN THE AUTOMATIC POSITION AND SET THE DESIRED STEAM FLOW. THE STEAM VALVE WILL AUTOMATICALLY ADJUST IN INCREMENTS OF .018T PER SEC. HEATING THE TUBE BUNDLE TOO QUICKLY WILL CAUSE THERMAL AND PRESSURE SHOCK, WHICH MAY RESULT IN TUBE BREAKAGE.

8.	Open FV-1202 to desired rate.		
9.	Verify steam temperature is below 270 F.		
10.	Gradually increase the steam flow while vacuum is being established, but avoid heating the circulating acid above 185 F.		

Start 52% Condensate Pump

Start pump with condensate flow directed to the Hot Well

1.	Start RO Water to 52% Condensate pump seal.		
2.	Place LIC-2203A in the "Manual" position and close.		
3.	Open gate valves one on each side of LV-2203A.		
4.	Close LV-2203B.		
5.	Open gate valves on each side of LV-2203B.		
6.	Open LV-2203B (to Hot Well).		
7.	Start 52% Condensate Pump.		

Direct Condensate to Condensate Recovery

8.	Check condensate conductivity.		
9.	When conductivity is below 100 open LV-2203A to (East Plant) and close LV-2203B to (Hot Well).		

52% Evaporator Normal Startup

10.	Start the Boiler Feed Pump to the East Plant.		
11.	Place LV-2203 in Automatic.		

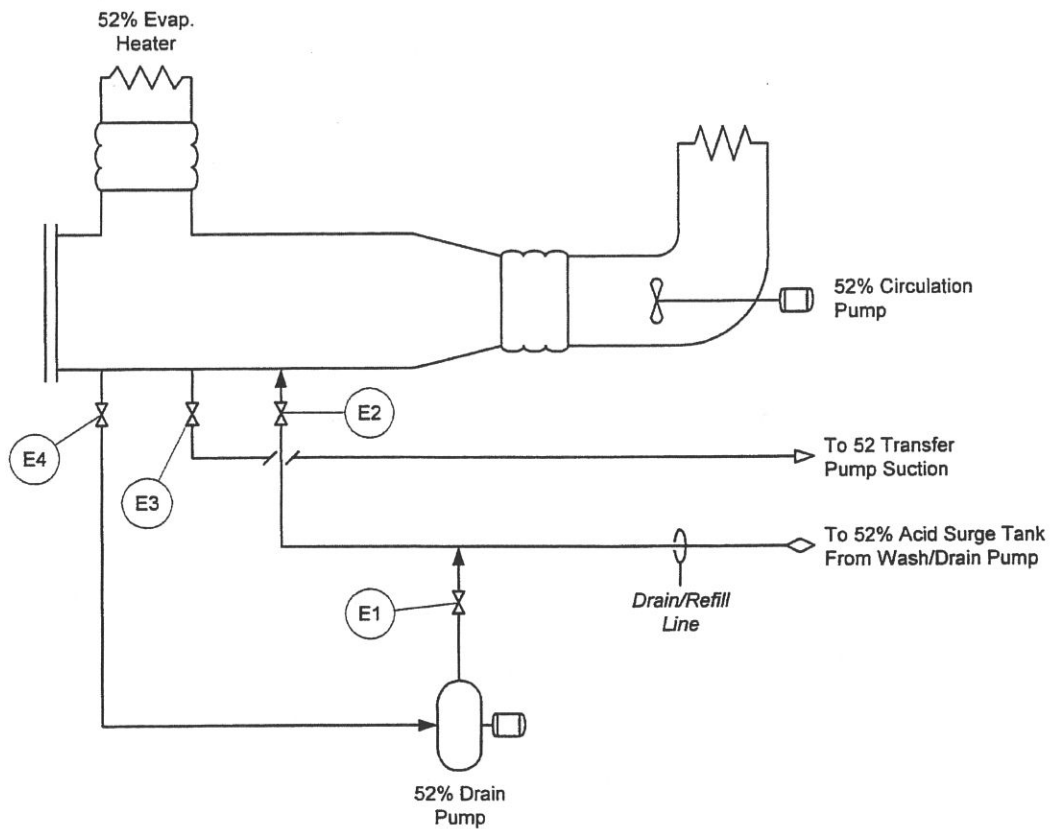
Stabilize Operations

1.	Sample product acid for specific gravity and adjust as needed.		
2.	Maintain the desired specific gravity and P2O5 content by adjusting the following: <ul style="list-style-type: none">• The low pressure steam flow• The feed acid flow		

52% Evaporator Normal Startup

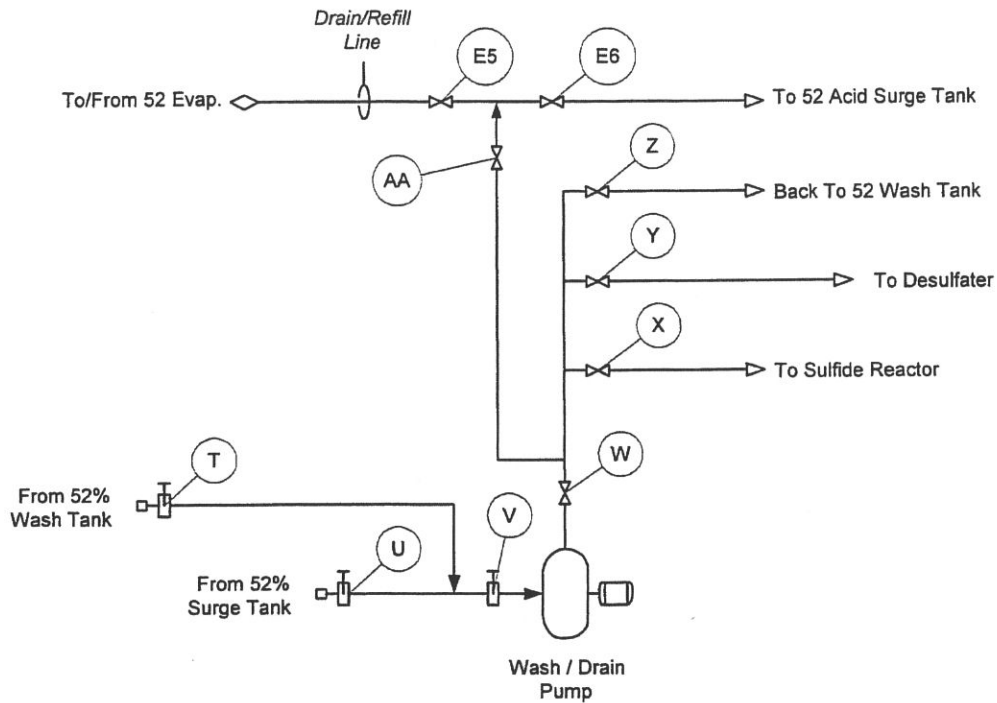
Illustrations

Figure 1: Bottom of 52% Evaporator



52% Evaporator Normal Startup

Figure 2: Wash/Drain Pump





Conda Phosphate Operations

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Cooling Tower Normal Startup

PPA-05-715.002
3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a normal Startup of the Cooling Tower.

Requirements: All equipment is purged and ready for service, all switchgear is unlocked and energized, and all instruments are unblocked and in service.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Cooling Tower Normal Startup

TASKS:

1. Open Valves
2. Close Valves
3. Start Pumps

Steps	Key Points	PPE/Hazards
1.	Make proper notifications of Cooling Tower Start-up to all affected personnel.	
2.	Open 1 inch Plug Valve upstream of Sulfuric Acid pH Control, (AV-18618).	
3.	Open 18" Butterfly Valves on each cell (North, Middle, South) Cooling Water Return.	
4.	Open 18" Butterfly Suction Valve on South Cooling Water Pump (CP-4136624) and 20" Butterfly Discharge Valve.	Only open valves to pumps being used for service.
5.	Open 18" Butterfly Suction Valve on Middle Cooling Water Pump (CP-413625) and 20" Butterfly Discharge Valve.	Only open valves to pumps being used for service.
6.	Open 18" Butterfly Suction Valve on North Cooling Water Pump (CP-413634) and 20" Butterfly Discharge Valve.	Only open valves to pumps being used for service.
7.	Start one of the Cooling Tower Pumps.	

NOTE

ONLY TWO COOLING TOWER PUMPS RUN AT A TIME WITH THE THIRD BEING A SPARE PUMP. IF THE THIRD COOLING TOWER PUMP NEEDS TO BE IN SERVICE, THE SHIFTER MUST BE NOTIFIED PRIOR TO STARTING.

8.	Start the second Cooling Tower Pump.		
9.	Place WAC Makeup Water, (LIC-8618) in "Automatic" with a Set Point to maintain the level.		

Cooling Tower Normal Startup

Steps		Key Points	PPE/Hazards
10.	Check and adjust, if needed the levels in the Hot Water Basin with the six "Marley" valves (North, Middle, South).		

NOTE

ADJUSTMENTS SHOULD BE MADE TO THE HOT WATER BASIN CELLS TO EQUALIZE FLOW BETWEEN THEM.

11.	Start the Cooling Tower Fans one at a time (North, South, and Center).		
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Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Fluoride Vent Scrubber Normal Startup

PPA-03-115.003

2/18/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Startup of the Fluoride Vent Scrubber.

Requirements: Fluoride Vent Scrubber is shutdown and needs to be started up.

Required Documents: DEQ Notification must be completed upon starting up Fluoride Vent Scrubber. Notify supervisor to complete DEQ Notification.

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No Special PPE requirements are needed.	N/A	N/A

TASKS:

1. DEQ Reporting
2. Clear and concise radio communications
3. Open and close valves
4. Start pumps

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Fluoride Vent Scrubber Normal Startup

Steps	Key Points	PPE/Hazards
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NOTE

THE STARTUP OF THE FLUORIDE VENT SCRUBBER SHOULD PRECEDE THE STARTUP OF ANY OF THE VESSELS THAT VENT TO IT. VESSELS THAT CAN VENT TO THE SCRUBBER INCLUDE:

• 52% WASH TANK	• 52% HOT WELL
• 27% ACID CLARIFIER	• DESULFATER
• 27% ACID FILTER	• DESATURATOR
• 27% VACUUM PUMP SEPARATOR	• 52% FILTER PRECOAT TANK
• #1 VACUUM PUMP SEPARATORS	• #1 RVDF
• #1 CAKE SLURRY TANK	• 52% ACID SURGE TANK
• #2 VACUUM PUMP SEPARATORS	• CONDITIONED ACID SURGE TANK
• ACID FEED TANK	• PRIMARY FFS SURGE TANK
• SECONDARY FFS SURGE TANK	• PROCESS CONDENSATE TANK
• FIRST EFFECT HEATER	• DECOLORIZER
• #2 RVDF	• #2 CAKE SLURRY TANK

1.	Fill Scrubber to normal operating level and place 36LIC-3108 in (automatic) position.		
2.	Place flow controller 36FIC-6108 scrubber flow to trench in manual and close valve.		
3.	Set valves to circulate Fluoride Scrubber pump and start pump.		
4.	Confirm flow in recycle line is within normal range.		
5.	Start the Fluoride Vent Scrubber Fan and slowly open damper until the pressure drop across the scrubber is within the normal range, or the motor amps on the fan motor reach 80% of maximum.		

Fluoride Vent Scrubber Normal Startup

6.	Start the Vent Scrubber Caustic Pump and line up valves.		
7.	Open the manual valve in line going to acid sewer.		
8.	Enter the normal operating set point. In 36FIC-6108 Fluoride Vent Scrubber Flow to Trench and place in automatic.		
9.	Go around to all the vessels being vented to Vent Scrubber and check the vent lines. Check for leaking vapors. The slide gate valves on the vent lines may need to be partially opened or closed to balance the flow between vessels.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Starting up a Green Acid line to Phos

PPA-02-110.002

1/16/2004

Objective: Provide operating personnel with step-by-step instruction on how to bring green acid lines into service with the aid of Phos operations

Requirements: The lines will be brought into service as conditions dictate, such as Tank Farm conditions and needs.

Required Documents: No required documents.

Tools and Equipment: No special tools and equipment are needed.

PPE	Hazards	Environmental Considerations

TASKS:

1. Clear and concise radio communications
2. Communications with customers
3. Start and stop pumps
4. Open and close valves
5. Hook up and unhook hoses

Page 1 of 3

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Line Wash Outs (Green Acid)

Steps	Key Points	PPE/Hazards
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NOTE

THIS IS A GENERAL LINE OPERATION PROCEDURE AND MAY NOT COVER EVERY SITUATION THAT MAY EXIST.

1.	<p>Notify the Phos DCS operator of the following things:</p> <ul style="list-style-type: none"> The line that you are going to bring into service From which point to which point the line will be operational. The identification of any vessels to be involved during operation <p>The identification of any equipment to be affected during the operation (pumps, lines, etc.).</p>		
2.	Align valves to direct flow to desired location.		
3.	Contact Phos operations to align their valves to desired location		
4.	Open discharge valve ¼ open.		
5.	Start Desulfater Feed Pump.		
6.	Open discharge valve 100% open.		

CAUTION

USE CAUTION WHEN BRINGING LINE INTO SERVICE. LINE MAY LEAK WHEN STARTING UP A COLD LINE.

7.	Contact Phos operations to determine if flow has reached its destination.		
----	---	--	--

8.	Keep in contact with Phos operations to meet their customer needs.		
----	--	--	--

NOTE

IN THE EVENT THAT FLOW IS NOT ESTABLISHED, THE LINE MAY HAVE TO BE TAKEN APART AT CERTAIN INTERVALS FOR INSPECTION OR SECTIONAL WASHING. IF THIS OCCURS, PROVISIONS MUST BE TAKEN TO CONTAIN THE SPILLED CONTENTS. BREAKING THE LINE IN A CONTAINED AREA IS ALWAYS PREFERABLE. IF CONTAINMENT IS NOT AVAILABLE CONTACT YOUR SUPERVISOR FOR SPECIAL INSTRUCTIONS.

Agrium

Conda Phosphate Operations

**OPERATIONS PROCEDURE
ACKNOWLEDGEMENT**

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Starting up a Green Acid line to PPA

PPA-02-115.002

1/16/2004

Objective: Provide operating personnel with step-by-step instruction on how to bring green acid lines into service with the aid of PPA operations

Requirements: The lines will be brought into service as conditions dictate, such as Tank Farm conditions and needs.

Required Documents: No required documents.

Tools and Equipment: No special tools and equipment are needed.

PPE	Hazards	Environmental Considerations

TASKS:

1. Clear and concise radio communications
2. Communications with customers
3. Start and stop pumps
4. Open and close valves
5. Hook up and unhook hoses

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Line Wash Outs (Green Acid)

Steps	Key Points	PPE/Hazards
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NOTE

THIS IS A GENERAL LINE OPERATION PROCEDURE AND MAY NOT COVER EVERY SITUATION THAT MAY EXIST.

1.	<p>Notify the PPA operator of the following things:</p> <ul style="list-style-type: none"> The line that you are going to bring into service From which point to which point the line will be operational. The identification of any vessels to be involved during operation <p>The identification of any equipment to be affected during the operation (pumps, lines, etc.).</p>		
2.	Align valves to direct flow to desired location.		
3.	Contact PPA operations to align their valves to desired location		
4.	Open discharge valve ¼ open.		
5.	Start Pump feeding PPA area.		
6.	Open discharge valve 100% open.		

CAUTION

USE CAUTION WHEN BRINGING LINE INTO SERVICE. LINE MAY LEAK WHEN STARTING UP A COLD LINE.

7.	Contact PPA operations to determine if flow has reached its destination.		
----	--	--	--

8.	Keep in contact with PPA operations to meet their customer needs.		
----	---	--	--

NOTE

IN THE EVENT THAT FLOW IS NOT ESTABLISHED, THE LINE MAY HAVE TO BE TAKEN APART AT CERTAIN INTERVALS FOR INSPECTION OR SECTIONAL WASHING. IF THIS OCCURS, PROVISIONS MUST BE TAKEN TO CONTAIN THE SPILLED CONTENTS. BREAKING THE LINE IN A CONTAINED AREA IS ALWAYS PREFERABLE. IF CONTAINMENT IS NOT AVAILABLE CONTACT YOUR SUPERVISOR FOR SPECIAL INSTRUCTIONS.

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Conda Phosphate Operations

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Normal Operation

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Normal Startup and Shutdown of the Fire Pump System

PPA-05-630.002

3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Startup and Shutdown of the Fire Pump System.

Requirements: All equipment is purged and ready for service, all switchgear is unlocked and energized, and all instruments are unblocked and in service.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

Normal Startup and Shutdown of the Fire Pump System

TASKS:

1. Open valves
2. Close valves
3. Startup pumps
4. Stop Pumps

Steps	Key Points	PPE/Hazards
-------	------------	-------------

Preparing Fire Water Diesel Pump for Service

1.	Ensure 18-inch Butter Fly Valve is open on outlet of Fire Water Tank.		
2.	Ensure 10-inch Gate Valve is open on suction line on Electric Fire Water Pump.		
3.	Ensure 10-inch Gate Valve is open on suction line on Diesel Fire Water Pump.		

NOTE

THE DIESEL FIRE WATER PUMP CONTROL PANEL IS LOCATED ON THE SOUTH WALL OF THE FIRE WATER PUMP BUILDING. THE DIESEL PUMP SHOULD BE SET IN THE AUTO POSITION DURING NORMAL OPERATION.

4.	Start from the Remote Panel; if it does not start in automatic then proceed as follows.		
5.	Open door on Remote Panel, if you can't open the door then break glass.		
6.	Push "OFF" button.		
7.	Push "Manual" button.		
8.	Push "Crank No.1" or "Crank No.2" button.		

Start Diesel Pump from Engine Panel

1.	Switch position mode Selector to Manual Run.		
----	--	--	--

Normal Startup and Shutdown of the Fire Pump System

Steps	Key Points	PPE/Hazards
2.	Lift and hold Manual Crank No.1 until engine starts, or release after 15 seconds.	
3.	If unit fails to start, wait for 15 seconds use Manual Crank No.2 and repeat step.	
4.	If cooling water is not flowing or engine temperature is too high, open Cooling System manual by pass valve.	

Stop Engine

1.	Return Mode Selector Switch to automatic or manual stop position, engine will stop.	
----	---	--

CAUTION

DO NOT LEAVE THE MODE SELECTOR SWITCH IN THE MANUAL RUN POSITION DURING AUTOMATIC OPERATION. THE CONTROLLER WILL BE UNABLE TO STOP THE ENGINE AND DAMAGE MAY RESULT.

Electric Fire Pump Controller

1.	Push Start Button or push the Emergency Start Handle and then turn it "Counter Clockwise To Latch".	
2.	When in the Automatic position, the Electric Pump will start and stop automatically to maintain line pressure.	

NOTE

THE ELECTRIC FIRE WATER PUMP CONTROL PANEL IS LOCATED ON THE NORTH WALL OF THE FIRE WATER PUMP BUILDING. THE ELECTRIC PUMP SHOULD BE SET IN THE AUTO POSITION DURING NORMAL OPERATION.

Normal Startup and Shutdown of the Fire Pump System

Steps	Key Points	PPE/Hazards
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Jockey Pump Controller

NOTE

THE JOCKEY PUMP CONTROL PANEL IS LOCATED ON THE NORTH/WEST WALL OF THE FIRE WATER PUMP BUILDING. THE JOCKEY PUMP SHOULD BE SET IN THE AUTO POSITION DURING NORMAL OPERATION.

1.	The Jockey Pump will automatically start and stop to maintain line pressure.		
2.	If the Jockey Pump cannot keep up with the demand, the Electric Fire Water Pump will start and stop automatically to maintain line pressure.		
3.	If Jockey Pump needs to be started manually, place the switch in manual position. The switch is located on the main breaker.		

NOTE

IN CASE OF AN EMERGENCY, COOLING BASIN WATER MAY BE USED AS FIREWATER. IF COOLING WATER IS TO BE USED, OPEN 18-INCH BUTTER FLY VALVE ON SOUTH SIDE OF COOLING TOWER BASIN.

Normal Startup and Shutdown of the Fire Pump System



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Normal Startup, Shutdown, and Regeneration of the WAC Water units

PPA-05-215.002
3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Startup, Shutdown, and Regeneration of the WAC Water units.

Requirements: All equipment is purged and ready for service, all switchgear is unlocked and energized, and all instruments are unblocked and in service.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Normal Startup, Shutdown, and Regeneration of the WAC Water units

TASKS:

1. Open valves
2. Close valves
3. Startup pumps
4. Stop pumps

Steps		Key Points	PPE/Hazards
1.	Inspect unit before the start of operation and during each shift, even if another operator already has placed the unit into service or regeneration.		
2.	Ensure all cycle times and throughput set points are properly set in the operator interface module.		
3.	Ensure that there is sufficient regenerate available for regeneration of the bed, if required.		
4.	Place unit in Semi-automatic.		

NOTE

THE WAC UNITS ARE EITHER OPERATED AUTOMATICALLY OR SEMI-AUTOMATICALLY. THE SEMI-AUTOMATIC MODE REQUIRES OPERATOR INTERVENTION WHEN REGENERATION IS REQUIRED. THE OPERATOR MUST MANUALLY INITIATE REGENERATION AT THE LOCAL CONTROL PANEL. IN AUTOMATIC MODE, THE UNITS WILL AUTOMATICALLY PROCEED TO REGENERATION ONCE REQUIRED.

5.	The unit's inlet valves and outlet valve will automatically open. Unit is now in service.		
----	---	--	--

Normal Startup, Shutdown, and Regeneration of the WAC Water units

Steps	Key Points	PPE/Hazards
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NOTE

THE WEAK ACID CAT ION EXCHANGE UNITS CAN REMAIN IN SERVICE UNTIL A UNIT IS EXHAUSTED AND THE THROUGHPUT CAPACITY HAS BEEN EXCEEDED. WHEN A UNIT'S EXCHANGE CAPACITY HAS BEEN EXHAUSTED, IT MUST BE REGENERATED ACCORDING TO THE FOLLOWING REGENERATION STEPS:

- **STEP 1, BACKWASH / 240 GPM FOR 15 MINUTES. THIS FLOW IS CONTROLLED BY A TRAVEL STOP ON ONE OF THE AUTOMATIC DISCHARGE VALVES AND SHOULD NOT NEED TO BE ADJUSTED. THE FLOW IS DISPLAYED BY THE WAC UNITS 6" INLET MAGMETER.**
- **STEP 2, ESTABLISH ACID DILUTION WATER FLOW / 135 GPM FOR 1 MINUTE. THIS FLOW NEEDS TO BE ADJUSTED BY THE OPERATOR USING THE GATE VALVE ON THE 4" WATER LINE AT THE SULFURIC ACID SKID (THE GATE VALVE PASSES APPROXIMATELY THE CORRECT FLOW WHEN 1-3/16" OF THE STEM IS VISIBLE ABOVE THE HANDWHEEL LOCKNUT). THE FLOW IS DISPLAYED BY THE 4" MAGMETER INSTALLED ON THE REGENERANT LINE.**
- **STEP 3, REGENERATION / 135 GPM FOR 119 MINUTES. THIS FLOWRATE SHOULD HAVE BEEN ESTABLISHED WITH THE VALVE SETTING IN STEP 2. SULFURIC ACID SHOULD BE METERED INTO THE WATER STREAM TO OBTAIN A HYDROMETER READING OF 1.009-1.010. THIS CORRESPONDS TO 0.7% BY VOLUME H₂SO₄-THE MANUFACTURERS RECOMMENDED CONCENTRATION. A SULFURIC ACID PUMP SETTING OF 30 WILL GET YOU CLOSE TO THE TARGET GRAVITY IF THE DILUTION WATER FLOW HAS BEEN SET TO 135 GPM.**
- **STEP 4, ACID DISPLACEMENT / 135 GPM FOR 12 MINUTES. THIS FLOWRATE SHOULD HAVE BEEN ESTABLISHED WITH THE VALVE SETTING IN STEP 2.**
- **STEP 5, FAST RINSE / 200 GPM FOR 27 MINUTES. THIS FLOW IS CONTROLLED BY A TRAVEL STOP ON ONE OF THE AUTOMATIC DISCHARGE VALVES AND SHOULD NOT NEED TO BE ADJUSTED. THE FLOW IS DISPLAYED BY THE WAC UNITS 6" INLET MAGMETER.**

6.	In semi-automatic mode the above condition will cause a regeneration alarm.		
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Normal Startup, Shutdown, and Regeneration of the WAC Water units

7.	Regeneration must be initiated by depressing the regeneration lighted pushbuttons (LPB1, LPB2) on the face of the control panel. These lights will remain on steady during regeneration.		
8.	Place selector switch SS5 in Auto Position. This will advance the unit through the Regeneration steps automatically.		

NOTE

THE POSITION OF SS5 SELECTOR SWITCH WILL DETERMINE IF THE UNIT WILL PROCEED THROUGH THE REGENERATION STEP AUTOMATICALLY OR MANUALLY. IN THE AUTO POSITION THE UNIT WILL BE REGENERATED AUTOMATICALLY AND RETURN TO SERVICE OR STANDBY DEPENDING UPON THE UNIT SELECTOR SWITCH (SS1, OR SS2). IF THE SS5 SELECTOR SWITCH IS IN TIMERS HOLD POSITION YOU MUST ADVANCE THROUGH EACH STEP BY PRESSING THE STEP ADVANCE BUTTON.

9.	Selector Switch (SS1 or SS2) will determine if the unit is in Standby or ready for Service.		
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Steps	Key Points	PPE/Hazards
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DANGER

IF THE NEED ARISES TO DRAIN THE WAC UNITS, THE TOP VENT VALVE MUST BE OPENED AS NOT TO PULL VACUUM ON THE VESSELS. SEVERE EQUIPMENT OR RESIN DAMAGE COULD OCCUR IF THESE VESSELS ARE UNDER VACUUM.

NOTE

WITH THE SS1 OR SS2 IN THE SERVICE POSITION, THE UNIT WILL OPERATE FOR 24 HOURS AND THEN AUTOMATICALLY SHUTDOWN WITH A REGENERATION ALARM.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

52% Evaporator De-Super Heater Normal Operation

PPA-05-930.002
2/18/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform the Normal Operation of the 52% Evaporator De-Super Heater.

Requirements: Any time the boiler is running and process equipment requires steam, the De-Super Heater must be in operation.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Saranex Suit• Rubber Gloves• Rubber Boots• Face Shield• Goggles	<ul style="list-style-type: none">• Condensate	N/A

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52% Evaporator De-Super Heater Normal Operation

TASKS:

1. Open valves
2. Drain Condensate from steam lines
3. Clear and concise communications

Steps		Key Points	PPE/Hazards
1.	Set steam temperature controller TIC-5613 to temperature desired.		
2.	Verify air supply to temperature controller TV-5613.		
3.	Drain the condensate from the main steam supply line ahead of PV-7613A and PV-7613B.		
4.	Drain the condensate from the De-Super Heater steam feed line.		Condensate/Saranex Suit, Rubber Boots, Rubber Gloves, Face Shield, and Goggles

NOTE

TO AVOID EQUIPMENT DAMAGE FROM "WATER HAMMER" (THERMAL/PRESSURE SHOCK) WHEN CHARGING A COLD, EMPTY STEAM LINE, ALWAYS START THE STEAM SUPPLY VERY SLOWLY AND ALLOW THE LINE TO WARM UP AND PRESSURE UP GRADUALLY. A GOOD RULE OF THUMB WHEN CHARGING ANY COLD STEAM LINE IS TO TAKE THE PRESSURE UP FROM ZERO TO OPERATING PRESSURE IN A MINIMUM OF 25 MINUTES.

5.	Open main steam valve from boiler slowly until desired flow is obtained.		
6.	Set PV-761A and PV-7613B to control desired pressure.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

NORMAL OPERATION AUTO SAMPLERS

PPA-02-045.002

2/24/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Operation of the Auto Samplers.

Requirements: The plant location of the Auto Sampler must be in service to collect samples to have them analyzed to ensure contract compliance and product specifications.

Required Documents: No required documents.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

Normal Operation Auto Samplers

TASKS:

1. Clear and concise radio communications
2. Collect Sample and take to Lab for analysis as per sample schedule.
3. Install clean sample bottle
4. Turn Off and On Auto Sampler

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

THE AUTO SAMPLER IS DESIGNED TO COLLECT A DESIRED AMOUNT OF SAMPLE OVER AN 8 TO 12 HOUR PERIOD, WHICH IS TO BE SENT TO THE LAB FOR ANALYSIS.

1.	Verify the Auto Samplers are working correctly throughout the shift.		
2.	Ensure the HOA switch is in the Auto Position.		
3.	When it becomes time to change the sample bottle, the operator should obtain a clean dry sample bottle.		
4.	Switch the HOA to the Off position.		
5.	Operator should then remove the full sample bottle from the Auto Sampler.		
6.	Put lid on the full sample bottle and clean the bottle to send to lab for analysis.		
7.	Install the clean dry bottle on the Auto Sampler.		
8.	Switch the HOA back to the Auto position and verify that the sampler is working.		
9.	Tag the sample with the following information: <ul style="list-style-type: none"> • Date and Time the sample was taken • Proper product identification • Tests to be run • Hazards 		

Normal Operation Auto Samplers

10.	Send full sample bottle to the lab for analysis.		
11.	Periodically inspect Auto Samplers to ensure they are functioning properly.		

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Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Sampling

PPA-02-035.002

2/25/2003

Objective: Provide operating personnel with step-by-step instruction on how to Safely and Accurately pull a representative Sample.

Requirements: Samples are pulled to determine weather or not product is on spec and unit is running correctly. Samples will be taken as per schedule or as needed (Special Samples).

Required Documents: Special Sample Request Form.

Tools and Equipment: Sample Bottle and correct labeling.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Saranex Suit• Rubber Gloves• Rubber Boots• Face Shield• Goggles	<ul style="list-style-type: none">• Exposure to Acid• Exposure to High Temperature	N/A

Sampling

TASKS:

1. Gather samples
2. Open and close valves

Steps	Key Points	PPE/Hazards
1. Obtain clean and dry sample bottle.		

DANGER

PUT ON PROTECTIVE EQUIPMENT TO INCLUDE WORK GLOVES AND GOGGLES PRIOR TO PULLING SAMPLE. SULFIDING SAMPLES ARE TO BE TAKEN IN A NARROW NECKED BOTTLE WITH THE SAMPLE TUBE INSERTED INTO THE BOTTLE. 62% ACID AND CONDENSATE SAMPLES HAVE THE POTENTIAL OF BEING VERY HOT (220-350 DEGREES). FULL ACID SUITS (SARANEX OR RUBBER GEAR), RUBBER GLOVES, FACE SHIELD, GOGGLES, RUBBER BOOTS MUST BE WORN TO PREVENT THERMAL BURNS.

NOTE

SOLVENTS SAMPLE POINTS MUST BE PURGED INTO A CONTAINER, WHICH IS TO BE EMPTIED INTO THE SCRUBBER SOLVENT TANK AFTER THE SAMPLE IS TAKEN. BEFORE PUMPING ANY SUMP TO A SPECIFIC AREA, A SAMPLE MUST BE TAKEN TO VERIFY THE CONTENTS OF THE SUMP. PUMPING A SUMP TO THE WRONG AREA MAY CAUSE SAFETY / ENVIRONMENTAL PROBLEMS OR SEVERE EQUIPMENT DAMAGE. DO NOT PUMP ANY SUMP TO AN UNCONTAINED AREA.

2.	Ensure product is circulating before pulling line sample.		
3.	Purge all non-Strahman valves to safe location before pulling sample.		

NOTE

ALL SAMPLING SHOULD BE DONE THROUGH REDUCED PORTS (3/4" OR SMALLER).

4.	Pull sample into the bottle and replace cap.		
5.	Label for proper identification to include: sample name, date, time, hazards, crew and initial.		

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Sampling

6.	Send to lab for analysis in a timely manner.		
----	--	--	--

Sampling from Product Trucks

1.	Obtain clean and dry sample bottle.		
----	-------------------------------------	--	--

CAUTION

WEAR PROTECTIVE EQUIPMENT INCLUDING, RUBBER GLOVES, GOGGLES, AND FACE SHIELD WHEN PULLING SAMPLE.

2.	Sampling should take place after truck is loaded.		
----	---	--	--

DANGER

LOADING RAMP AND TOP OF TRUCK MAY BE SLIPPERY. PROCEED WITH CAUTION.

3.	Place sample in to bottle thief and pull sample. Replace bottle cap.		
4.	Remove bottle from sample thief and rinse bottle with water.		
5.	Label sample to include, BOL number, Batch number, date, time, and initials.		
6.	Send to lab for analysis in a timely manner.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

DATE: _____

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Filling SCBA Bottles from the Cascade System

PPA-02-090.002
3/19/2003

Objective: Provide operating personnel with step-by-step instruction on how to fill the SCBA Bottles from the Cascade System.

Requirements: When SCBA Bottles become low on pressure they need to be refilled with Breathing Air prior to use.

Required Documents: No documents are required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Filling SCBA Bottles from the Cascade System

TASKS:

1. Open valves
2. Close valves

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

IF A CYLINDER OR CYLINDERS NEED TO BE CHANGED OUT IN THE STORAGE BANK, REFER TO THE COMPRESSED BREATHING AIR CYLINDER CHANGE OUT PROCEDURE PPA-03-000.

1.	Inspect each SCBA Bottle for damage before loading into Shatter Box.		
2.	Load 1 or 2 bottles into the Shatter Box.		
3.	Hook up connections to the SCBA Bottles inside of the Shatter Box.		
4.	Close pressure bleed off on the hose connections inside of the Shatter Box.		
5.	Open one SCBA Bottle Valve.	Only fill one bottle at a time.	
6.	Shut and Lock Shatter Box door.		
7.	Open desired fill station on the Shatter Box (valve #1 or #2).	Only fill one bottle at a time.	

DANGER

DO NOT OPEN ALL FOUR CYLINDERS IN THE STORAGE BANK. THIS COULD OVER-PRESSURE THE SCBA BOTTLES INSIDE OF THE SHATTER BOX CAUSING SEVERE DAMAGE AND POSSIBLE INJURY.

8.	Slowly open the lowest pressured cylinder in the bank.	Avoid rapid transfer of air between bank cylinders and the SCBA Bottles.	
9.	Control pressure transfer with the valve on the bank cylinder you are filling from.		
10.	Monitor the O2 analyzer on the hose to the storage bank.		

Filling SCBA Bottles from the Cascade System

Steps	Key Points	PPE/Hazards
11.	When pressure equalizes between the storage cylinders and the SCBA Bottles, close the valve on the storage bank cylinder.	
12.	Move to the next to lowest pressured cylinder in the bank and slowly open the cylinder valve.	
13.	Continue to fill SCBA Bottles until optimal pressure is reached (2216 PSI).	Continue to move through the cylinder bank, from lowest pressure to highest pressure, until optimal pressure is reached following steps 8-13.
14.	Once the SCBA Bottle reaches 2216 PSI, close the valve on the last storage bank cylinder being used.	
15.	Close the valve on top of the Shatter Box going to the bottle being filled.	
16.	Open the valve on top of the Shatter Box going to the 2 nd bottle.	
17.	Continue with Steps 5-15 to fill 2 nd bottle.	
18.	If you are ready to open Shatter Box, make certain all bank cylinder valves are closed.	
19.	Ensure that the fill station valves are closed on the outside of the Shatter Box.	
20.	Unlock and open Shatter Box.	
21.	Close valve on the SCBA Bottles.	
22.	Open the pressure bleed off valve on the hoses going to the SCBA bottles.	
23.	Remove SCBA bottles from inside of the Shatter Box.	
24.	Store SCBA bottles in designated area or return them to the SCBA Hard Case and prepare them for service.	



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

NORMAL OPERATION OF THE GREEN ACID STORAGE SUMP

PPA-02-065.002

2/24/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Normal Operation of the Green Acid Storage Sump.

Requirements: The Sump must be in operation and sampling must occur to direct flow to desired location.

Required Documents: No required documents.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirement are needed	N/A	N/A

Normal Operation of the Green Acid Storage Sump

TASKS:

1. Open and Close Valves
2. Sample and analyze
3. Start and Stop pumps

Steps	Key Points	PPE/Hazards
1. Operator must determine what are the contents of the Green Acid Storage Sump.		

NOTE

THE OPERATOR HAS TWO CHOICES AS TO WHERE CONTENTS OF SUMP MAY BE SENT. ALL WASTE STREAMS SHOULD BE DIRECTED TO THE ACID SEWER SUMP. THIS VALVE WILL BE NORMALLY OPEN. ACID RECOVERY SHOULD BE DIRECTED TO THE DESATURATOR TANK. THIS VALVE IS NORMALLY CLOSED. ONCE DETERMINATION HAS BEEN MADE TO RECOVER CONTENTS OF SUMP, FLOW SHOULD THEN BE DIRECTED BY OPENING VALVE TO DESATURATOR TANK AND CLOSING VALVE TO ACID SEWER SUMP.

2.	Set valves to direct flow of sump to desired location.		
3.	During recovery operation, operator should pump contents of sump to Desaturator Tank. After contents have been recovered return valves to pump to the Acid Sewer Sump.		



Conda Phosphate Operations

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Conda Phosphate Operations
Standard Operating Procedures

PPA PLANT

52% Evaporator Boil Out

PPA-04-045.003

2/69/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform a Boil Out on the 52% Evaporator. 52% Evaporator Boil Out will occur when scaling of the tube bundle reduces the heat transfer to the point the unit is no longer efficient which could result in tube or evaporator damage.

Requirements: Boil outs will be determined by how well the Evaporator is performing, mechanical integrity, or production requirements.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

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52% Evaporator Boil Out

TASKS:

1. Clear and concise radio communications
2. Open and close valves
3. Start and stop pumps

CAUTION

ALLOW ABOUT ONE HOUR AFTER NORMAL SHUTDOWN AND DRAINING FOR THE HEAT EXCHANGER TO COOL TO AVOID THERMAL SHOCK. SEE PROCEDURE FOR 52% EVAPORATOR NORMAL SHUTDOWN.

NOTE

ENSURE THAT THE 52% EVAPORATOR HAS BEEN RINSED TO RECOVER ACID REMAINING IN BELLY SECTION AND TUBE BUNDLE AFTER DRAINING EVAPORATOR FOR BOIL. SEE PROCEDURE PPA-04-025.001 FOR RINSING INSTRUCTIONS (PAGE 5).

Steps	Key Points	PPE/Hazards
1. Open the vent line valve from Heat Exchanger to the atmosphere.		
2. Close the manual air bleed valve in the evaporator pressure control loop. Automatic valve PV-4202 should stay open.		
3. Close the evaporator drain valves down stream of the Evaporator Circulation Pump.		
4. Fill the Vapor Body and 52% Heater with process condensate through the Wash/Drain Pump and line. At the pump capacity it will take 1 hour to fill the evaporator.	Determine when the wash solution has reached the normal overflow level in the Vapor Body by opening the Halfway Valve in the evaporator product overflow	

52% Evaporator Boil Out

		line and the sample valve on the discharge of the 52% Acid Transfer Pump. Close the Halfway valve, Discharge Valve, and Sample Valve on the Transfer pump when process condensate appears at this point.	
5.	Start the 52% Circulation Pump.	Continue to add the wash solution to the evaporator to raise the liquid level about 3 feet above the overflow (about another 20 minutes).	
6.	Start the flow of process condensate water to the barometric condenser and inter condenser and cooling water to 52% Water Coolers.		
7.	Start medium pressure steam flow to the second stage steam jet. Close the valve in the vent airline. Set the evaporator pressure controller to maintain about 300 mm Hg. Absolute pressure. (This is to insure that the temperature does not go too high).		
8.	Start low-pressure steam flow through the by-pass to the heat exchanger up slowly. Adjust steam flow as required to bring the process condensate up to boiling (about 167 °F) within three hours or less (estimated 8000-10000 lb/hr). Notify North Plant Operator when you start steam into the evaporator.	If necessary to sustain vacuum, start medium pressure steam flow to the first stage jet.	

52% Evaporator Boil Out

9.	Observe the wash solution temperature in the Vapor Body down leg periodically to be sure the temp does not go over 185 F (looking for 167F)	To Keep a liquid level in the Evaporator it may be necessary to add warm water from the wash tank.	
10.	Continue the circulation of the process condensate solution for about 8 hours, holding the solution temperature at about 167 °F to 185 F using the minimum amount of steam.		

NOTE

185 F TEMPERATURES MAY BE USED, BY INCREASING THE ABSOLUTE VACUUM PRESSURE BUT EXCEEDING 185 F MAY DAMAGE THE RUBBER LINING.

11.	Keep the circulation pump on and the L.P. Steam flow to control the water temperature at 185 F.		
12.	Shut off the medium pressure steam flow to the vacuum jets and process condensate to the condensers.		
13.	Break vacuum in the Vapor Body slowly by putting the pressure control valve on manual operation and slowly opening the air bleed-in valve, over the course of 10 minutes.		

NOTE

TO SAVE TIME AFTER THE BOIL OUT, DRAINING OF THE EVAPORATOR WILL USUALLY BE THROUGH THE DRAIN PUMP SINCE THE CAPACITY OF THE DRAIN PUMP IS SIX TIMES THAT OF THE 52% ACID TRANSFER PUMP. HOWEVER IT MAY BE DESIRABLE TO FLUSH THE PRODUCT PUMP AND PIPING ALSO AT THIS TIME BY PUMPING WASH SOLUTION TO THE 52% WASH TANK BY CONNECTING A 3" HOSE FROM THE PRODUCT LINE TO THE EVAPORATOR DRAIN LINE AT THE 52% ACID SURGE TANK.

NOTE

THE FREQUENCY OF THE BOIL OUT PROCEDURE WILL DEPEND ON VARIOUS CIRCUMSTANCES SUCH AS PRODUCTION REQUIREMENTS, ACID SCALING TENDENCIES, FEED AND PRODUCT STORAGE AVAILABILITY, AND SCHEDULING OF MAINTENANCE AND REPAIRS TO ASSOCIATED EQUIPMENT.

Draining Evaporator After Boil Out

1.	Shut off the low-pressure steam flow to the 52% Heater. Notify North Plant Operator.		
2.	Shutdown the 52% Circulation Pump.		
3.	Open the drain valve to the drain pump and close the discharge valve.		
4.	Ensure all valves are open to send the spent liquor to the 52% Wash Tank.		
5.	Start the Evaporator Drain Pump, and then proceed to open slowly the valve at the pump discharge.		

NOTE

AFTER THE EVAPORATOR IS DRAINED IT MAY BE NECESSARY TO COMPLETE THE FOLLOWING ITEMS ON AN AS PER NEEDED BASIS.

- OPEN THE BELLY DOOR AND INSPECT FOR LOOSE SCALE OR DEBRIS.
- OPEN THE BOTTOM INSPECTION DOOR ON THE TUBE BUNDLE AND INSPECT THE LUMP SCREEN.
- OPEN THE TOP TUBE BUNDLE DOOR AND CHECK TUBES FOR CLEANLINESS.
- OPEN THE VAPOR HEAD INSPECTION DOOR AND INSPECT FOR CLEANLINESS AND DAMAGE.

6.	If the Evaporator is found to be thoroughly clean, close all inspection doors and return all valves to startup position.	See Procedure PPA-04-015 for Normal Startup of the 52% Evaporator.	
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Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

DATE: _____

Agrium

Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Normal Operation of the Deluge Sprinkler Controls

PPA-05-730.002
3/3/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform the Normal Operation of the Deluge Sprinkler Controls.

Requirements: When set off the Deluge system pumps large amounts of water to drown out suspected fires. Immediate response is in effect to inspect for fires and minimize water usage in the event of false alarms.

Required Documents: Weekly Fire Pump Test and Documentation.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Normal Operation of the Deluge Sprinkler Controls

TASKS:

1. Open valves
2. Close valves
3. Reset Deluge valves

Steps	Key Points	PPE/Hazards
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Deluge Sprinkler Controls

NOTE

THE RELIABLE DELUGE VALVES ARE HYDRAULICALLY OPERATED DIFFERENTIAL TYPE VALVES IN DELUGE, PRECAUTION, OR SPECIAL TYPES OF FIRE PROTECTION SYSTEMS.

NOTE

WHEN A FIRE IS DETECTED BY A LOSS OF PRESSURE IN THE NITROGEN PILOT SYSTEM, THE PUSH ROD CHAMBER IS VENTED TO THE ATMOSPHERE THROUGH THE PUSH ROD CHAMBER OUTLET. WHEN THE PUSH ROD CHAMBER PRESSURE REACHES ABOUT ONE HALF THE SUPPLY PRESSURE, THE UPWARD FORCE OF THE SUPPLY PRESSURE ACTING ON THE CLAPPER IS GREATER THAN THE DOWNWARD FORCE OF THE LEVER AND THE CLAPPER OPENS. ONCE THE CLAPPER HAS OPENED, THE LEVER ACTS AS A LATCH, PREVENTING THE CLAPPER FROM RETURNING TO THE CLOSED POSITION. WATER FROM THE SUPPLY FLOWS THROUGH THE DELUGE VALVE INTO THE SYSTEM PIPING. WATER ALSO FLOWS THROUGH THE DELUGE VALVE ALARM OUTLET TO THE ALARM DEVICES.

1.	Close the ¼" ball valve controlling the deluge valve.		
2.	Close the main 6" water supply block valve.		
3.	Open the main 2" drain valve.		
4.	Open all drain valves and vents at low points throughout the system to allow system to drain.		
5.	Push in the plunger of the Ball Drip Valve to equalize atmospheric pressure inside the main valve chamber.		

Normal Operation of the Deluge Sprinkler Controls

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

BE EXTREMELY CAREFUL RESETTING THE CLAPPER. THE RESET KNOB IS ATTACHED WITH A ¼" THREADED SHAFT THAT CAN BE EASILY BROKEN IF HANDLED ROUGHLY OR CARELESSLY.

6.	Rotate the reset knob on the backside of the valve body clockwise until a distinct noise indicates that the clapper has reset. Skip to step #12. If the reset knob is inoperable, proceed to step #7.		
7.	Remove the body cover and raise clapper to the wide-open position.		
8.	Thoroughly clean the body seat surface making certain it is free from scale and dirt.		

NOTE

NEVER APPLY GREASE, COMPOUND SHELLAC OR ANY OILY SUBSTANCE TO THE SEAT OR RUBBER FACING.

CAUTION

THE CLAPPER WILL SEAT ITSELF WITH CONSIDERABLE FORCE AND PRESENTS A POTENTIAL PINCH POINT. KEEP HANDS AND FINGERS CLEAR WHEN RESETTING THE VALVE CLAPPER.

9.	Push lever to the left and lower the clapper onto the seat.		
10.	Replace gasket and the body cover and uniformly tighten cover bolts.		
11.	Inspect and replace any portion of the detection system exposed to fire conditions or damage.		
12.	Slowly open the 6" water supply block valve until a flow is established.		
13.	Close the 2" main drain valve until pressure is up or until the valve is closed.		

Normal Operation of the Deluge Sprinkler Controls

Steps	Key Points	PPE/Hazards
14. Make sure the nitrogen pressure on the signal line is up to recommended pressure.		
15. Open the water supply valve all the way.		
16. Open the ¼" ball control valve.		

NOTE

IF WATER LEAKS THROUGH THE BALL DRIP VALVE INTO THE DRIP CUP, THE BALL DRIP VALVE IS LEAKING. IF NO LEAKS OCCUR, THE WATER SEAT IS TIGHT.

Emergency Activation

1. Break the valve seal at the Manual Emergency Station and open valve. This will release the deluge valve and activate the system.		
---	--	--

NOTE

WEEKLY FIRE PUMP TESTS SHOULD BE CONDUCTED AND DOCUMENTED. THERE SHOULD BE ONE INDIVIDUAL ASSIGNED TO BE THE FIRE PUMP PERSON DESIGNATED TO PHYSICALLY INVESTIGATE THE STATUS OF THE FIRE PUMP IF IT STARTS AUTOMATICALLY AND CONFIRM THAT THERE IS NO FIRE PRIOR TO MANUALLY SHUTTING DOWN THE FIRE PUMP. THE INDIVIDUAL SHOULD BE RESPONSIBLE FOR CONFIRMING THAT THE FIRE PUMP IS FUNCTIONING CORRECTLY AND RETURN THE FIRE PUMP TO AUTOMATIC START STATUS PRIOR TO LEAVING THE FIRE PUMP BUILDING. THIS DESIGNATED PERSON WILL BE THE DAY "B" OPERATOR ON DAY SHIFTS AND THE SULFIDING OPERATOR ON NIGHT SHIFT.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

DATE: _____

Agrium

Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Load WAC Water Unit with Sub-fill and Resin

PPA-05-230.002
3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to load the WAC Water Unit with Sub-fill and Resin.

Requirements: Equipment commissioning prior to initial startup of reloading after units have been unloaded for internal repairs or servicing.

Required Documents: Confined Space Entry Permit and Scaffolding Inspect

Tools and Equipment: Scaffolding, small picker, and hoist.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Goggles• Safety Harness• Air Monitor	<ul style="list-style-type: none">• Resin Particles• Poor Footing• Falling• Confined Space• Air Quality	<ul style="list-style-type: none">• Keep work area clean

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Load WAC Water Unit with Sub-fill and Resin

TASKS:

1. Filling containers with Resin
2. Dumping containers of Resin
3. LO/TO
4. Confined Space Entry
5. Open valves
6. Close valves
7. Measure Resin Beds

Steps	Key Points	PPE/Hazards
-------	------------	-------------

DANGER

RESIN BEADS PRESENT POTENTIAL POOR FOOTING, SLIPPING AND FALLING HAZARDS DUE TO THEIR BALL BEARING EFFECT UNDER FOOT ON HARD SURFACES.

CAUTION

FALL PROTECTION TIE-OFF POINTS OR APPROVED SCAFFOLDING OR PLATFORM MUST BE ERECTED AROUND THE VESSEL MAN-WAYS PRIOR TO LOADING OPERATION. MOBILE OR MECHANICAL MEANS OF RAISING CONTAINERS TO THE TOP OF THE VESSELS MUST BE PROVIDED. ANY MOBILE EQUIPMENT OR OVERHEAD RIGGING USED IN MATERIAL HANDLING PRESENT SPECIAL HAZARDS SUCH AS PINCH POINTS AND SUSPENDED LOADS.

1.	Isolate all supply water and regenerate sources.		Isolation/LO/TO
2.	Remove and secure the man-way door on top of the vessel.		
3.	Inspect vessel and all internal components prior to loading.		Air Quality/Air Monitoring/Confined Space Entry
4.	Verify all piping, inspection ports and drains are secure.		
5.	Add 3' – 4' of water to the vessel to be loaded.		
6.	Stage resin/sub fill containers as close to the vessel as practical.		

Load WAC Water Unit with Sub-fill and Resin

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

CONDITIONS OR SITUATIONS MAY ALLOW USE OF A "CARRY-DECK" TO CONVEY FULL CONTAINERS TO THE VESSEL TOP OR DICTATE USING THE "BUCKET, ROPE AND PULLEY" METHOD TO TRANSFER MATERIAL FROM THE SHIPPING CONTAINERS TO THE VESSEL.

7.	Position one to two workers on top of vessel to handle and dump the material into the man-way.		
8.	Position two workers at ground level to rig containers, collect empties and keep work area clean and organized.		
9.	Rig sub fill and hoist by chosen method to top of vessel.		
10.	Dump containers into vessel through top man-way.		
11.	Return empty containers to ground level.		

NOTE

RECOMMENDED AMOUNT OF VESSEL SUB FILL IS 43 CU. FT.
RECOMMENDED AMOUNT OF RESIN FILL IS 133 CU. FT.

12.	Repeat steps #9 - #11 until recommended amount has been loaded.		
13.	Measure and record the sub-fill level from the face of the man-way flange.		
14.	Drain water from vessel.		
15.	Level sub fill as needed.		
16.	Refill vessel with water to approx. 3' above the sub-fill.		
17.	Load resin by following steps #9 - #12.		

Load WAC Water Unit with Sub-fill and Resin

Steps		Key Points	PPE/Hazards
18.	Roughly level the resin bed from outside of the vessel. Vessel is ready for "Initial Backwash & Regeneration", (Draining is not necessary since the bed will level itself through normal backwashing during the regeneration process).		
19.	Measure and record resin bed level from the face of the man-way flange for calculation of actual resin bed depth.		
20.	Vessel is ready for "Initial Backwash & Regeneration".		



Conda Phosphate Operations

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Unloading Bulk Chemical Trucks

PPA-05-430.002
3/17/2003

Objective: Provide operating personnel with step-by-step instruction on how to unload Bulk Chemical Trucks.

Requirements: When a load of bulk chemical is received, it will be necessary to assist the truck driver to off load.

Required Documents: All documents should be handled through the Guard.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Tyvek Suit• Rubber Gloves• Rubber Boots• Face Shield• Goggles	<ul style="list-style-type: none">• Chemical Exposure	All Spills must be cleaned up and properly disposed of immediately. Report all spills to area supervision.

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Unloading Bulk Chemical Trucks

TASKS:

1. Open valves
2. Close valves
3. Start pumps
4. Stop pumps

Steps	Key Points	PPE/Hazards
1.	Stop and secure tank truck in proper storage tank area where chemical is to be unloaded.	

DANGER
MAKE SURE TRUCK IS LOADED WITH THE CHEMICAL THAT MATCHES THE TANK TO WHICH YOU ARE UNLOADING.

2.	Chock wheels as required. Block road with warning signs and flags.	
3.	Supply a running water hose and show truck driver nearest safety shower and eyewash.	

CAUTION
OPERATOR AND TRUCK DRIVER MUST WEAR PPE GEAR NOW TO PROCEED WITH THIS PROCEDURE. EXPOSURE TO CORROSIVE CHEMICALS DUE TO BAD HOSES, FITTINGS, VALVES, PUMP, AND LINE FAILURE ARE PRESENT.

4.	Assist truck driver in hooking up discharge hose from truck to unloading pump of storage tank feed line.	
5.	If tanker is a gravity-unload type allow the driver to depressurize tank and open the lid.	

Unloading Bulk Chemical Trucks

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

SECURE ALL AIR HOSES WITH SAFETY CLIPS. INSPECT HOSE FOR DEFECTS.

6.	If tanker is a top mounted air-unload type, supply an air hose and assist driver in connecting it to the truck.		
7.	(For both types of tankers.) Open the valve on the unloading pump suction line, then instruct driver to open unloading valve on truck.		

NOTE

(FOR AIR UNLOAD TYPE TANKERS.) MONITOR TANK AIR PRESSURE. DO NOT EXCEED TANK'S MAXIMUM OPERATING PRESSURE. POSSIBILITY OF RUPTURED TANK, BLOWN RELIEF VALVE OR RUPTURED DISK.

8.	(For air-unload type tankers.) Instruct driver to open air valve on truck. Then pressure up air hose from plant to truck		
9.	Open discharges valve on pump and start pump.		

SLIP OR FALL HAZARD ON STORAGE TANK LADDER. BE SURE OF GRIP AND FOOTING ON STORAGE TANK LADDER.

10.	Check storage tank for flow and allow truck to unload completely.		
11.	(For air- unload type tankers) Shut off air supply in plant. Then have driver depressurize tank and disconnect air hose from the truck.		
12.	Instruct driver to close valve on truck and allow hose to drain into pump.		
13.	Close block valve on unloading pump suction line and shut pump off.		

Unloading Bulk Chemical Trucks

Steps		Key Points	PPE/Hazards
14.	Close discharge valve on unloading line.		
15.	Bleed pressure off on unloading line.		
16.	Instruct driver to disconnect unloading hose from truck.		Tyvek Suit, Rubber Gloves, Rubber Boots, Face Shield, and Goggles/Chemical Exposure
17.	Disconnect unloading hose from pump, drain any residue left in hose to containment area wash hose and put in proper storage area.		Tyvek Suit, Rubber Gloves, Rubber Boots, Face Shield, and Goggles/Chemical Exposure
18.	Remove chocks and warning sign.		
19.	If there is a second trailer repeat steps 1 through 18.		



Conda Phosphate Operations

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Normal Startup, Shutdown, and Operation of Tank Heaters

PPA-02-060.002
2/25/2003

Objective: Provide operating personnel with step-by-step instruction on how to Startup, Shutdown, and Normal Operation of the Tank Heaters.

Requirements: Boiler must be in service and Tank Heater must be ready to receive steam and product circulation.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	<ul style="list-style-type: none">Hot Surfaces	N/A

Normal Startup, Shutdown, and Operation of Tank Heaters

TASKS:

1. Clear and concise radio communications
2. Open and close valves
3. Line up valves to circulate product

Steps	Key Points	PPE/Hazards
-------	------------	-------------

Normal Startup of Tank Heaters

1.	Inspect Tank Heater to ensure it is ready for service.		
----	--	--	--

CAUTION

TO PREVENT THERMAL SHOCK, OPERATION MUST BE STARTED GRADUALLY. HOT FLUID MUST NOT BE SUDDENLY INTRODUCED WHEN THE UNIT IS COLD, NOR COLD FLUID SUDDENLY INTRODUCED WHEN THE UNIT IS HOT.

2.	Open product valve allowing tank contents to flow through the heater.		
3.	Gradually introduce steam into the heater, allowing heater to heat up slowly.		
4.	If heater has a vent valve, open and allow air to vent out.		
5.	Allow vent to purge condensate until dry steam is evident, then close vent.		
6.	After unit is warm, open steam valve output to achieve desired temperature output.		

CAUTION

ON THE STRIPPER SOLVENT TANK HEATER, DO NOT ALLOW THE SOLVENT OUTLET TEMPERATURE TO GO ABOVE 160°F.

7.	Run Heater as long as heating tank contents is required.		
----	--	--	--

Normal Operation of Tank Heaters

1.	Routinely monitor outlet temperature of process material from the heater.		
----	---	--	--

Normal Startup, Shutdown, and Operation of Tank Heaters

2.	Routinely monitor process lines, couplings and other fittings for leaks.		
3.	Routinely monitor steam lines, couplings and other fittings for leaks.		
4.	Routinely ensure that steam trap is functioning properly.		
5.	Routinely verify that the ΔP across the heater is within the normal range (high ΔP may indicate plugged tubes).		
6.	Routinely check for process materials in the condensate (indicates leaking tubes).		
7.	Report and document any abnormal conditions associated with the tank heater.		

Shutdown Tank Heaters

CAUTION

THE HEATER SHOULD BE SHUT DOWN GRADUALLY BY SLOWLY STOPPING THE FLOW OF THE HOT MEDIUM AND THEN STOPPING THE FLOW OF THE COLD MEDIUM. IF IT IS NECESSARY TO STOP THE FLOW OF COLD MEDIUM, THE CIRCULATION OF HOT MEDIUM THROUGH THE EXCHANGER SHOULD ALSO BE STOPPED.

1.	Gradually shut off steam going into heater.		
2.	Shut valve on product flow to heater.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Reverse Cooling Tower Fans

PPA-05-735.002
3/19/2003

Objective: Provide operating personnel with step-by-step instruction on how to reverse the Cooling Tower Fans.

Requirements: When the ice buildup becomes excessive Cooling Tower Fans need to be reversed.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

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Reverse Cooling Tower Fans

TASKS:

1. Stop Fans
2. Start Fans
3. Switch Fan Direction

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

NORMALLY ONLY ONE FAN IS REVERSED AT A TIME.

1.	Communicate with DCS operator that you are going to reverse fans.		
2.	DCS Operator will shut off the fan that is going to be reversed.		

NOTE

THERE IS A 2 MINUTE DELAY ON THE FAN DRIVE SELECTOR SWITCH TO PREVENT DAMAGE TO FAN DRIVE MOTOR WHEN SWITCHING FROM FORWARD TO REVERSE OR VICE VERSA.

3.	Wait approx. 2 minutes for fan to slow down and change direction.		
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NOTE

EACH FAN HAS ITS OWN UNIQUE FAN DIRECTION MECHANISM AND REQUIRES DIFFERENT STEPS TO INITIATE THE REVERSE AND FORWARD MODES.

Reverse Cooling Tower Fans

Steps	Key Points	PPE/Hazards
<p>4. Select the "Reverse Mode" on the following fan by:</p> <ul style="list-style-type: none"> • North Fan-DCS Operator will initiate the Reverse Mode and start the fan. • Center Fan- Field Operator will select the "Reverse Mode", at the breaker located in the North MCC, which automatically starts the fan. • South Fan-Field Operator will select the "Reverse Mode", at the breaker located in the North MCC, which automatically starts the fan. 		
<p>5. Run fans on reverse for approx. 20 to 30 minutes.</p>		
<p>6. Inspect Cooling Tower to ensure ice buildup has been eliminated from desired section.</p>		

NOTE

EACH FAN HAS ITS OWN UNIQUE FAN DIRECTION MECHANISM AND REQUIRES DIFFERENT STEPS TO INITIATE THE REVERSE AND FORWARD MODES.

<p>7. Stop the fan on "Reverse Mode" by doing the following:</p> <ul style="list-style-type: none"> • Stop North Fan-DCS Operator will initiate the "Stop Mode" by stopping the fan from the DCS. • Stop Center Fan-Field Operator will initiate the "Stop Mode" by stopping the fan from the breaker stop button located in the North MCC. • Stop South Fan-Field Operator will initiate the "Stop Mode" by stopping the fan from the breaker stop button located in the North MCC. 		
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Reverse Cooling Tower Fans

Steps	Key Points	PPE/Hazards
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NOTE

THERE IS A 2 MINUTE DELAY ON THE FAN DRIVE SELECTOR SWITCH TO PREVENT DAMAGE TO FAN DRIVE MOTOR WHEN SWITCHING FROM FORWARD TO REVERSE OR VICE VERSA.

8.	Wait approx. 2 minutes for fan to slow down and change direction.		
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NOTE

EACH FAN HAS ITS OWN UNIQUE FAN DIRECTION MECHANISM AND REQUIRES DIFFERENT STEPS TO INITIATE THE REVERSE AND FORWARD MODES.

9.	<p>Select the "Forward Mode by doing the following:</p> <ul style="list-style-type: none">• North Fan-DCS Operator will select the "Forward Mode" and start the fan from DCS.• Center Fan-Field Operator will select the "Forward Mode" and DCS Operator will start the fan from the DCS.• South Fan- Field Operator will select the "Forward Mode" and DCS Operator will start the fan from the DCS.		
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Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Refill Caustic Tote from Storage Tank

PPA-02-075.002

2/25/2003

Objective: Provide operating personnel with step-by-step instruction on how to Disconnect, Transport, Refill, and Return to Service the Caustic Tote.

Requirements: At any time a tote is running low and plant operations allows it to be temporarily taken out of service for refilling.

Required Documents: No required documents.

Tools and Equipment: Forklift, length of chain

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Saranex Suit• Rubber Gloves• Rubber Boots• Goggles• Face Shield	<ul style="list-style-type: none">• Chemical Exposure• Tote falling off of Forklift	<ul style="list-style-type: none">• Clean up all spill immediately and report them to supervision.

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Refill Caustic Tote from Storage Tank

TASKS:

1. Disconnect Tote piping
2. Operate Forklift in a safe responsible manner
3. Open and close valves
4. Start and Stop pumps
5. Secure Tote to Forklift to prevent tote from falling off during transportation

	Steps	Key Points	PPE/Hazards
1.	Block, drain and disconnect all piping and fittings from tote at service location.		
2.	Secure tote with chain to the Forklift.		

CAUTION

USE EXTREME CAUTION AND PROPER OPERATING PROCEDURES WHEN OPERATING FORKLIFT TO AVOID DAMAGE TO TOTE AND SURROUNDING EQUIPMENT.

3.	Close and latching top hatch and capping all outlet fittings.		
4.	Transport tote with forklift to the Sulfiding Caustic Unloading Area.		
5.	Set tote and back forklift a safe distance away.		
6.	Open top hatch on tote.		
7.	Connect refill hose to the hose connection on the discharge line of the caustic unloading pump.		
8.	Insert discharge end of refill hose into tote top hatch and secure to prevent it from flipping out.		
9.	Close valves on refill line to the Reactor Seal Tank.		
10.	Make sure all valves on the unloading pump suction line are open.		

Refill Caustic Tote from Storage Tank

11.	Start caustic unloading pump.		
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CAUTION

MONITOR THE FILLING OPERATION CLOSELY. DO NOT ALLOW THE TOTE TO OVERFILL OR OVERFLOW.

12.	Slowly open the block valve ahead of the refill hose connection and allow the tote to fill.		
13.	When the tote is full, shut down the unloading pump and close the block valve ahead of the refill hose connection.		
14.	Verify that there is no pressure remaining on the hose by carefully opening the sample connection valve on the unloading pumps discharge line.		
15.	Drain refill hose into the tote.		

CAUTION

USE EXTREME CARE WHEN TRANSPORTING A FULL TOTE. AT 12.5 LB./GAL A FULL 300 GAL TOTE WILL WEIGH APPROX. 4000 LBS. POSITION AND CARRY LOAD PROPERLY. SECURE TOTE TO FORKLIFT WITH CHAIN.

16.	Disconnect, wash and properly store hose.		
17.	Close tote top hatch and secure for transport.		
18.	Inspect and verify safety chain is securely attached to secure tote to Forklift.		
19.	With the forklift, transport the tote to its proper service location.		
20.	Attach tote service connections as needed, vent and return to service.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Tank Wash Outs (Green Acid Tanks)

PPA-02-055.002

2/25/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a Wash Out of the Green Acid Tanks.

Requirements: Tanks may need to be taken out of service due to excessive solids or during Turn Around to wash out tanks. Green Acid Tanks include: Desulfater Tank, Desaturator Tank, Clarifier, 52% Wash Tank, and the 52% Surge Tank.

Required Documents: Confined Space Entry Permit

Tools and Equipment: Fire Hose, Fire Nozzle, Safety Harness, and Air Monitor

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Saranex Suit• Rubber Gloves• Rubber Boots• Face Shield• Goggles• Respirator	<ul style="list-style-type: none">• Exposure to Phosphoric Acid• Excessive build up on ceiling or walls of tank• Falling• Slips and trips	<ul style="list-style-type: none">• Ensure wash is contained within the containment area

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Tank Wash Outs (Green Acid Tanks)

TASKS:

1. Clear and concise radio communications
2. Wash with Fire Hose
3. Open and close valves
4. Lock out, Tag out, and Try
5. Monitor Air Quality (Confined Space Entry Permit)
6. Removal and installation of inspection doors

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

PRIOR TO WASHING EITHER THE DESATURATOR OR THE DESULFATER TANKS, LOCK OUT PROCEDURES MUST BE FOLLOWED ON BOTH TANKS, AND INSTALL BLANKS IN THEIR COMMON OVERFLOW HEADER.

1.	All lock out must be completed per Tank lockout procedures.		
2.	Fill out Entry Permit and monitor tank for safe entry. Monitor tank for toxic gas and/or insufficient oxygen.		
3.	Gather all equipment needed for wash.		
4.	Remove top man way door to inspect and ensure safe entry can be made before opening bottom man way.		

NOTE

IF YOU ARE NOT ABLE TO ENTER TANK THROUGH BOTTOM SEE STEP 7.

5.	Put up barricades around perimeter of the tank		
6.	Open clean out door on bottom of tank.		

Tank Wash Outs (Green Acid Tanks)

7.	Enter tank and begin wash out: <ul style="list-style-type: none"> • May have to enter tank from the top of the tank. • Install ladder in top of tank. • Tie off the ladder. Enter tank and begin wash out.		Safety Harness/Falling
----	---	--	------------------------

NOTE

ENSURE ACID SEWER SUMP IS HANDLING FLOW FROM WASH OUT. WASHING MAY NEED TO BE SUSPENDED LONG ENOUGH FOR SUMP TO CATCH UP.

8.	Clean all inlet and outlet piping and reassemble.		
9.	After wash out is complete, inspect tank. Notify Lead Operator immediately if any damage is found.		
10.	Clean up area around tank and all equipment used during wash out.		
11.	Install clean out door, bottom man way door, and top man way door.		
12.	Unlock all equipment and place all valves in their operating position.		
13.	Release tank back to Area Operator.		
14.	Store all equipment used during wash.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Line Wash Outs (Green Acid)

PPA-02-050.002
2/224/2003

Objective: Provide operating personnel with step-by-step instruction on how to Wash Lines when they become restricted, plugged, or for maintenance.

Requirements: The lines will be washed when conditions dictate, such as boiling the 52% Evaporator, filter wash, or tank washes.

Required Documents: No required documents.

Tools and Equipment: 3" hoses and cam lock fittings.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Saranex Suit• Rubber Gloves• Rubber Boots• Face Shield• Goggles	<ul style="list-style-type: none">• Exposure to Hot Wash Water	<ul style="list-style-type: none">• When ever possible washing in containment area is desired.

Line Wash Outs (Green Acid)

TASKS:

1. Clear and concise radio communications
2. Communications with customers
3. Start and stop pumps
4. Open and close valves
5. Hook up and unhook hoses

Steps	Key Points	PPE/Hazards
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NOTE

THIS IS A GENERAL LINE WASHING PROCEDURE AND MAY NOT COVER EVERY SITUATION THAT MAY EXIST.

1.	<p>Notify the DCS operator of the following things:</p> <ul style="list-style-type: none"> • The line that you are going to wash • From which point to which point the line will be washed. • The identification of any vessels to be involved in the wash <p>The identification of any equipment to be affected during the wash (pumps, lines, etc.).</p>		
2.	Shut off pumps in the line to be washed.		
3.	Close valves to isolate line from process.		
4.	Connect hose to drain valve.		
5.	Secure the drain hose.		
6.	Open valve and drain line.		

CAUTION

USE CAUTION WHEN WASHING WITH CONDENSATE OR BLOWING WITH AIR. SPLASH POTENTIAL PRESENT. INSPECT CONDENSATE HOSES AND FITTINGS BEFORE USE.

Line Wash Outs (Green Acid)

7.	Hook up condensate to line wash fitting.		
8.	Put up barricades with "Hot Condensate In Use" signs and safety tape by inlet and outlet of line being washed.		
9.	Close the condensate bleed valve and open the condensate valve ¼ of the way.		Saranex Suit, Rubber Gloves, Rubber Boots, Face Shield, and Goggle/Possible Exposure to Hot Wash Water.
10.	Verify flow by opening the condensate bleed valve for a moment and closing it.		Same as Step #9

NOTE

IN THE EVENT THAT FLOW IS NOT ESTABLISHED, THE LINE MAY HAVE TO BE TAKEN APART AT CERTAIN INTERVALS FOR INSPECTION OR SECTIONAL WASHING. IF THIS OCCURS, PROVISIONS MUST BE TAKEN TO CONTAIN THE SPILLED CONTENTS. BREAKING THE LINE IN A CONTAINED AREA IS ALWAYS PREFERABLE. IF CONTAINMENT IS NOT AVAILABLE CONTACT YOUR SUPERVISOR FOR SPECIAL INSTRUCTIONS.

11.	Open the condensate supply line all the way.		Same as Step #9
12.	If there is a pump in the line, Then open the discharge valve and start pump.		Same as Step #9
13.	Wash line as long as needed or until condensate becomes clear.		
14.	Shut off condensate and drain the condensate wash line.		Same as Step #9
15.	Close wash valve and drain valve.		Same as Step #9
16.	Disconnect the condensate wash hose and put in proper storage area.		Same as Step #9
17.	Return pumps and valves to normal operation.		Same as Step #9
18.	Remove the barricades and your PPE and store them properly.		

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19.	In advertent weather, blow line clear or fill with process liquid.		Same as Step #9
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Conda Phosphate Operations

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TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Pressure Checking the 52% Evaporator

PPA-04-050.002
2/20/2003

Objective: Provide operating personnel with step-by-step instruction on how to verify that a tube has been broken and plug the broken tube by pressure checking the Evaporator.

Requirements: Once an operator has verified that a tube has been broken through PH analysis of the condensate, the 52% Evaporator will be shutdown and pressure checked.

Required Documents: Confined Space Entry Permit will need to be obtained from the DCS Control Room.

Tools and Equipment: All Lock out must be complete to include Air Monitor check for toxic gas and/or insufficient oxygen.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Saranex suit• Face Shield• Goggles• Rubber gloves• Rubber Boots	<ul style="list-style-type: none">• Exposure to Acid• Hot surfaces• Air quality	N/A

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Pressure Checking the 52% Evaporator

TASKS:

1. Working inside of Confined Space
2. LO/TO
3. Open and Close inspection doors
4. Hooking up and unhooking 3/4" hose
5. Identifying broken tubes
6. Plugging broken tubes

	Steps	Key Points	PPE/Hazards
1.	Shutdown and drain the 52% Evaporator.	See Procedure PPA-04-025 52% Evaporator Normal Shutdown	
2.	Lock out and Isolate the Evaporator Feed valves.	See LO/TO	
3.	Lock out Evaporator Circ Pump.	See LO/TO	
4.	Lock out L.P. Steam block valve and condensate return line.	See LO/TO	

NOTE

MAN WAY DOORS ARE HEAVY, ENSURE DOOR HINGES ARE INTACT AND IN GOOD SHAPE, USE LIFTING DEVICE OR GET HELP IF NEEDED.

5.	Open the man way door at the top and the bottom of the tube bundle.		
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	Steps	Key Points	PPE/Hazards
6.	Fill shell with water.	Do not exceed 18psi	
7.	Observe the bottom of the tubes to determine the location of the leak.		
8.	Shut off the water going into the shell and drain off the pressure from the shell.	Drain shell until water quits leaking out of broken tube.	

Pressure Checking the 52% Evaporator

CAUTION

WHENEVER BELLY DOOR OR BOTTOM TUBE BUNDLE DOOR IS OPEN, INSPECT LUMP SCREEN AND SCRAPE OUT BELLY SECTION WHILE EVAPORATOR IS LOCKED OUT.

9.	Insert and tighten plug into bottom of tube that is leaking.		
10.	Insert and tighten plug into top of tube that is leaking.		
11.	Turn on water going into shell and run pressure not to exceed 18psi.	Ensure there are no more leaks.	
12.	Drain shell side of Heater.		

CAUTION

WHENEVER BELLY DOOR OR BOTTOM TUBE BUNDLE DOOR IS OPEN, INSPECT LUMP SCREEN AND SCRAPE OUT BELLY SECTION WHILE EVAPORATOR IS LOCKED OUT.

13.	Replace top and bottom man way doors. Be sure to inspect gaskets of man way doors.		
14.	Shut valve on the shell side of exchanger.		
15.	Unlock Evaporator and close out entry permit.		
16.	The unit is then either placed on boil out or placed back in service.	See Procedure PPA-04-015 for 52% Normal Start-up or PPA-04-045 Boil out.	



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
PPA Plant

Normal and Emergency Shutdown of Air Compressor & Air Dryer

PPA-05-325.002
3/6/2003

Objective: Provide operating personnel with step-by-step instruction on how to perform a normal Shutdown of the Air Compressor and Air Dryer.

Requirements: The Air Compressors and Air Dryers may need to be Shutdown for maintenance or Turn Around.

Required Documents: No documents required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Normal and Emergency Shutdown of Air Compressor & Air Dryer

TASKS:

1. Open valves
2. Close valves
3. Startup Compressor and Air Dryer
4. Shutdown Compressor and Air Dryer

Steps	Key Points	PPE/Hazards
-------	------------	-------------

Normal Shutdown of the Air Compressor

1.	Push the stop button at the compressor control panel.		
2.	Close the 2-Inch discharge valve on the compressor.		

Emergency Shutdown of the Air Compressor

1.	Push Emergency Stop Button.		
2.	Close the 2-Inch discharge valve on the Air Compressor.		

Normal Shutdown of the Air Dryer

NOTE

PRIOR TO SHUTTING THE DRYER DOWN, IT SHOULD BE SUFFICIENTLY COOLED DOWN AND ALLOWED TO FULLY DEPRESSURIZE.

1.	Shutting down the air dryer may be done by allowing, the dryer to proceed through the heat cycle, or by manual stepping the dryer to a cool down cycle.		
2.	After shutdown, the dryer should be immediately bypassed to prevent loading of the beds while the dryer is out of service.		
3.	Allow the dryer to reach a depressurization step.		

Normal and Emergency Shutdown of Air Compressor & Air Dryer

Steps	Key Points	PPE/Hazards
-------	------------	-------------

NOTE

If the stop button is used, the dryer disconnect should also be opened.

4.	While the dryer is fully depressurization, stop the dryer by pushing the stop button or opening the main electrical disconnect.		
5.	Close the outlet isolation valve.		
6.	Close the inlet isolation valve.		

Emergency Shutdown of the Air Dryer

1.	Pull Emergency Stop Button.		
2.	Open the bypass valve on Air Dryer.		



Conda Phosphate Operations

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Water Blasting

PPA-03-040.002
4/06/2004

Objective: Provide operating personnel with step-by-step instruction on how to Safely Operate the Water Blaster.

Requirements: Operator must have been trained on Water Blaster Safety and viewed the Water Blaster Video prior to operating Blasting equipment.

Required Documents: Operator Certification on Water Blaster Safety.

Tools and Equipment: Mobile Water Blaster, Foot Pedal and/or Pressure Gun.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Turtle Suit• Face Shield• Goggles• Rubber Gloves• Rubber Boots	<ul style="list-style-type: none">• High Pressure water• Flying Debris• Tripping	N/A

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Water Blasting

TASKS:

1. Hook up and unhook water blaster trailer to P.U. Truck
2. Couple and uncouple water blaster hoses
3. Water blast using the Pressure Gun and Foot Pedal
4. Start and stop pump
5. Adjust pressure settings

Water Blasting Using Pressure Gun or Foot Pedal

Steps		Key Points	PPE/Hazards
1.	Inspect the gun and foot pedal, hoses and fittings using the pre-inspection check sheet.		
2.	Ensure safety shroud is installed on pressure gun hose inlet to protect personnel against hose rupture.		
3.	String out the hoses, gun, and or foot pedal to the work site.		

CAUTION

INCORRECT PRESSURE CAN DAMAGE EQUIPMENT. CHECK EQUIPMENT PROCEDURE FOR LIMIT.

DANGER

WHEN WATER BLASTING EVAPORATOR TUBES, DO NOT EXCEED 3000 PSI.

NOTE

Anytime the water blaster is set at 4000 psi or higher a safety watchman is required. Any pressure below this can be a one person operation after the pressure on the water blaster is set.

4.	Watchman will set the pressure control as per equipment to be cleaned.		
5.	Secure area as not to injure unprotected personnel. Safety barriers may be needed.		
6.	Aim gun or snake at a safe place.		
7.	Hold the gun or snake and position your body in a ready position as watchman starts blaster.		

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Water Blasting

8.	Slowly squeeze the trigger or press down on foot pedal while the watchman observes the pressure.		
9.	Shut off blaster each time the pressure needs to be adjusted.		
10.	Readjust the pressure until high enough to do the job yet maintain control of the gun or snake without undue discomfort.		
11.	Aim gun or snake as to minimize back splash.		
12.	Blast the designated equipment until clean.		
13.	When finished, shut off blaster.		
14.	Remove the barricades.		
15.	Properly store equipment.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

52% Evaporator Normal Operation

PPA-04-030.003
2/6/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform the Normal Operation of the 52% Evaporator.

Requirements: The 52% Evaporator must be in service and sampling must take place to meet desired product specifications and system adjustments.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	Report all leaks to area supervision.

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52% Evaporator Normal Operation

TASKS: List ALL tasks within this procedure.

1. Clear and concise radio communications
2. Sampling
3. Process Adjustments
4. Communications between PPA DCS and PHOS DCS operators and supervision.

Normal Operation of the 52% Evaporator

Steps	Key Points	PPE/Hazards
1.	Set desired feed rate (FIC-2202).	

NOTE

DURING STARTUP PUT THE STEAM CONTROLLER IN AUTOMATIC AND SET DESIRED STEAM FLOW. THE STEAM VALVE WILL AUTOMATICALLY ADJUST IN INCREMENTS OF .018% PER SEC. HEATING THE TUBE BUNDLE TOO QUICKLY WILL CAUSE THERMAL AND PRESSURE SHOCK, WHICH MAY RESULT IN TUBE BREAKAGE.

2.	During operation, adjustment to the steam will be made to meet specific acid concentration. The steam flow to the heater is controlled by FIC-1202.	
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NOTE

TEMPERATURES OF 200 F OR HIGHER WILL RESULT IN PERMANENT RUBBER DAMAGE TO THE EVAPORATOR. THE LOWER THE ABSOLUTE VACUUM, THE LESS STEAM WILL BE NEEDED RESULTING IN LOWER ACID TEMPERATURES.

3.	Run vacuum (PIC-4202) in the vapor body 100% closed to meet optimal acid concentration with a temperature of 195 F or less.	
4.	Start flow in the Barometric Condenser by starting both 52% Hot well Circulation Pumps.	

52% Evaporator Normal Operation

NOTE

IF THE FLOW IN THE BAROMETRIC CONDENSER STARTS TO DROP OFF RAISE THE SPECIFIC GRAVITY ABOVE 1.730 TILL FLOW IS RESUMED.

NOTE

DISTRIBUTION OF PROCESS CONDENSATE AND COOLING TOWER WATER IS CONTROLLED MANUALLY WITH LOCAL TEMPERATURE INDICATION. THE COMBINED COLD PROCESS CONDENSATE TEMPERATURE EXITING THE COOLERS IS MONITORED BY TI-7206 WITH TAH-7206. WHEN THE TEMPERATURE OF THE COLD PROCESS CONDENSATE IS LESS THAN 85 F, IT SHOULD BE POSSIBLE TO SAVED ON PUMPING COSTS BY REDUCING WATER FLOW TO THE BAROMETRIC CONDENSER UNTIL THE DISCHARGE TEMPERATURE APPROACHES 105 F, OR UNTIL THE PRESSURE CONTROL IS ADVERSELY AFFECTED BY REDUCED EFFICIENCY IN THE 52% BAROMETRIC CONDENSER. WHEN THE TEMPERATURE OF THE COLD PROCESS CONDENSATE IS HIGHER THAN REQUIRED, IT IS A SIGNAL THAT THERE IS SCALING IN THE COOLERS.

5.	Monitor Evaporator temperature in two locations. One is located on the Vapor Body down-leg. The second is located after the Heat Exchanger.		
----	---	--	--

NOTE

IF THE TEMPERATURE AFTER THE HEAT EXCHANGER EXCEEDS 195 F, I-32 WILL CAUSE THE STEAM AUTOMATIC VALVE TO CLOSE. IN THIS EVENT THE EVAPORATOR FEED SHOULD BE SHUT DOWN TILL THE PROBLEM HAS BEEN CORRECTED.

6.	Condensate in the 52% Condensate Receiver is monitored for conductivity by CI-1203. Good condensate will be pumped to the East Plant on level control LIC-2203.		
7.	Product Acid overflows from the evaporator Vapor Body and is pumped to the 52% Surge Tank by the 52% Acid Transfer Pump.		

8.	Sample product acid every two hours to check specific gravity control. Make adjustments as required to meet product specs.		
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Agrium

Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

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TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Plate and Frame Heat Exchanger Cleaning

PPA-04-135.003
2/20/2003

Objective: Provide operating personnel with step-by-step instruction on how to clean the Plate and Frame Heat Exchanger.

Requirements: When a Plate and Frame Heat Exchanger has reduced heat transfer, increased pressure drop, reduced flow rate, or visible leaks it may become necessary to clean the plates.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Rubber Gloves• Leather Gloves	<ul style="list-style-type: none">• Chemical Exposure• Sharp Edges	N/A

Plate and Frame Heat Exchanger Cleaning

10.	Clean and store all tool and equipment used during plate cleaning.		
11.	Bring exchanger back into service as needed.	See Procedure PPA-04-115-.002	



Conda Phosphate Operations

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TRAINEE: _____

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Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

Normal Operation 52% Wash Tank

PPA-04-055.003

2/17/2004

Objective: Provide operating personnel with step-by-step instruction on how to perform the Normal Operation of the 52% Wash Tank.

Requirements: The 52% Wash Tank must be in operation to direct wash water to desired locations.

Required Documents: N/A

Tools and Equipment: N/A

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	<ul style="list-style-type: none">Hot surfaces	N/A

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Normal Operation 52% Wash Tank

TASKS:

1. Clear and concise radio communications
2. Open and close valves
3. Start and stop pumps
4. Direct flow to desired locations

Steps	Key Points	PPE/Hazards
1. Fill tank to desired level via the 52% Hot Well (FV5205). The 4" manual valve going to the Wash Tank must be opened and the 4" manual valve going to the Acid Sewer Sump must be closed.		

NOTE STEAM FLOW IS INTERLOCKED TO 75% TO PREVENT DAMAGE TO THE RUBBER LINING.		
--	--	--

2. Heat tank contents slowly with the use of Low Pressure steam to about 165° F to 185F depending on system to be washed. No more than 185 F to avoid rubber damage. Temperature indication and control is controlled on the DCS (TIC3209). Agitator should be running.		
---	--	--

NOTE THE CONTENTS OF THE 52% WASH TANK VIA THE WASH/DRAIN PUMP, CAN BE DIRECTED TO THE SULFIDING REACTOR, 52% EVAPORATOR, HOSE CONNECTIONS, OR DESULFATER TANK. ENSURE PROPER VALVE POSITIONS ARE SET PRIOR TO PUMPING CONTENTS OF TANK TO DESIRED LOCATION.		
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3. Set valves to pump contents of tank to desired location.		
4. Start Wash/Drain Pump with discharge slightly open and suction valve fully opened. Gradually open the discharge valve until fully open.		

Normal Operation 52% Wash Tank

5.	Ensure flow is being received to desired location.		
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Empty Wash Tank

1.	After an evaporator boil out the tank will be saturated with solids and should be emptied, then refilled.		
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Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

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Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

Draining the 52% Hot Well Tank

PPA-04-060.002
2/20/2003

Objective: Provide operating personnel with step-by-step instruction on how to safely drain the 52% Hot Well Tank to prevent equipment damage.

Requirements: The Evaporator is shutdown for boil or circulating under **No** vacuum. The Plate and Frame Heat Exchangers are fouled and the concentration of silica in the Hot Well Tank is high requiring fresh water to be added.

Required Documents: Confined Space Entry Permit if entry is needed.

Tools and Equipment: Air Monitor

PPE	Hazards	Environmental Considerations
If Entry is needed <ul style="list-style-type: none">• Tyvek Suit• Rubber Boots• Rubber Gloves• Face Shield• Goggles	If Entry is needed <ul style="list-style-type: none">• Air Quality• Chemical Exposure• Splash Potential• Slips and Trips• Confined Space	N/A

Draining the 52% Hot Well Tank

TASKS:

1. Clear and concise radio communications
2. Open and close valves
3. Stop pumps
4. Confined Space Entry Permit
5. Monitor Air Quality
6. Drain Tank
7. Open and close inspection door
8. Wash out tank

Steps	Key Points	PPE/Hazards
1. Shut down evaporator. Determine whether to drain or circulate.	See procedure PPA-04-025	

CAUTION

DRAINING THE 52% HOT WELL TANK WHILE EVAPORATOR IS UNDER NEGATIVE PRESSURE CAN CAUSE THE 52% HOT WELL TANK TO COLLAPSE OR CAUSE MAJOR DAMAGE TO EQUIPMENT.

2.	Shutdown the 52% Evaporator vacuum steam system.		
3.	Shutdown the re-circulation Hot Well Pumps.		
4.	Open the vacuum pressure control valve PV-4202 and bleed off vacuum from system.	Verify pressure on DCS PIC-4202.	
5.	Open bottom drain valve on Hot Well Tank and drain.		
6.	Lock out Re-Circulation Pumps on the Hot Well Tank.	See LO/TO	
7.	Remove Hot Well Tank inspection door.		

NOTE

IF ENTRY IS NEEDED TO ACCOMPLISH CLEAN OUT OF THE HOT WELL TANK FILL OUT A CONFINED SPACE ENTRY PERMIT AND MONITOR AIR QUALITY PRIOR TO STEP 8.

8.	Clean out and refill as needed.		
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Conda Phosphate Operations
Standard Operating Procedures
PPA Plant

Compressed Breathing Air Storage Bank Cylinder Change Out

PPA-02-085.002
3/19/2003

Objective: Provide operating personnel with step-by-step instruction on how to change out the Compressed Breathing Air storage bank cylinders.

Requirements: As Compressed Breathing Air cylinders become empty, it will become necessary to change out the empty cylinders and replace them with full cylinders.

Required Documents: No documents are required.

Tools and Equipment: No tools required.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed	N/A	N/A

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Compressed Breathing Air Storage Bank Cylinder Change Out

TASKS:

1. Open valves
2. Close valves

	Steps	Key Points	PPE/Hazards
1.	Ensure all four valves on the storage bank cylinders are closed.		
2.	Ensure fill station valves are closed on the Shatter Box unit.		
3.	Take off connections to the desired empty cylinder that needs changed out.		
4.	Put cap on the empty cylinder being moved from the bank		
5.	Remove the safety chain holding the empty cylinder in place.		
6.	Carefully remove empty cylinder and put in the empty cylinder storage rack.		
7.	Install a full cylinder in the empty cylinder's place.		
8.	Place the safety chain around the full cylinder.		
9.	Remove the cap.		
10.	Reconnect the fittings to the new cylinder in the storage bank.		

NOTE

THE NEW CYLINDER THAT WAS INSTALLED IN THE BANK BECOMES THE FINAL STAGE CYLINDER, BECAUSE THIS IS NOW YOUR HIGHEST PRESSURED CYLINDER IN THE STORAGE BANK.

11.	Crack storage cylinder valve open and check for leaks in the hose fittings.	The equipment is now ready to fill empty SCBA cylinders.	
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Conda Phosphate Operations
Standard Operating Procedures

PPA Plant

52% Evaporator Steam Jet Cleaning

PPA-04-040.002

12/25/02

Objective: Provide operating personnel with step-by-step instruction on how to Clean the Steam Jets on the 52% Evaporator.

Requirements: When the Jets become dirty vacuum may drop off. Jets may need to be cleaned whenever the 52% Evaporator goes down for boil.

Required Documents: N/A.

Tools and Equipment: End Wrenches, channel locks, and LO/TO.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Work gloves or• Rubber gloves	<ul style="list-style-type: none">• Low-pressure steam• Hot surfaces	N/A

52% Evaporator Steam Jet Cleaning

TASKS:

1. Open and close valves
2. LO/TO
3. Disassemble and reassemble Steam Jets.

Steps		Key Points	PPE/Hazards
1.	Isolate the primary and secondary steam valves and lock them out.	LO/TO	
2.	Open the manual vacuum breaker.		
3.	Close water valve to inner condenser and lock it out.	LO/TO	
4.	Remove bolts on top of Primary Jet Head and remove from Air Chamber.		Work gloves or Rubber gloves/surfaces may be hot.
5.	Inspect the Air Chamber, Primary venturi, and bottom elbow going into the inner condenser.	Inspect, clean, or replace parts as needed.	Work gloves or Rubber gloves/surfaces may be hot. Eye Particle injury/goggles.
6.	Remove bolts on top of Secondary Jet Head and remove from Air Chamber.		Same as Step 4.
7.	Inspect the Air Chamber, Secondary venturi, and venturi down leg.	Inspect, clean, or replace parts as needed.	Same as Step 5.
8.	Reinstall Primary Steam Jet parts.		
9.	Reinstall Secondary Steam Jet Parts.		
10.	Unlock all valves and bring Jets back in to service as needed.		



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Agrium

Conda Phosphate Operations

Standard Operating Procedures

PPA Plant

NORMAL OPERATION OF THE CENTER AND SOUTH COOLING TOWER FANS

PPA/05-720-001
12/06/04

Objective: Provide operating personnel with step-by-step instruction on how to perform the Normal Operation of the Cooling Tower Fans.

Requirements: Start, Stop, and Reverse the Cooling Tower Fans as per Normal Operation.

Required Documents: N/A

Tools and Equipment: DCS or Local startup on the VFD breaker controller.

PPE	Hazards	Environmental Considerations
No special PPE requirements are needed.	N/A	N/A

NORMAL OPERATION OF THE CENTER AND SOUTH COOLING TOWER FANS

TASKS:

1. Start, Stop, and Reverse Cooling Tower Fans on the DCS or locally on the VFD breaker controller.

Steps		Key Points	PPE/Hazards
1.	Ensure that the VFD Controller is in the Remote position to start from the DCS.	Press the Remote and Local button to start and stop from desired location.	
2.	Place the Center or South Fan Temperature Face Plate in the Rout position (Rout is the same as Cascade).	Center and South fans are controlling off of the Cooling tower Temperature indication.	N/A
3.	Press the desired direction button either Forward or Reverse.	Reverse fans to eliminate Ice build up during winter months.	N/A
4.	Once the fan is in service it will start controlling off of the Cooling Tower Temperature indication, slowing down or speeding up depending on the cooling tower temperature set point.	The Desired temperature of the Cooling Tower is 60 F	N/A
5.	When a change of direction is desired press the desired direction and the fan will automatically ramp down until it stops and then it will automatically start in the direction you desire.	There is no need to stop the fan and then restart it in a different direction. The fan will automatically start and reverse directions on its' own.	N/A
6.	To Stop the fans press the Stop button on the faceplate.		N/A
7.	To start or stop the South and Center fans from the VFD, press the Remote and Local button on the VFD Controller to put the controller in the local Position.	The Local and Remote position readout is on the top left corner of the VFD Controller.	N/A
8.	Press the Start or Stop button on the VFD controller as desired.		N/A



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Conda Phosphate Operations

Standard Operating Procedures

Agrium Operations

Normal Operating Procedure for Operator Expectations

03/20/2003

Objective: To provide operating personnel with step-by-step instruction on how to perform the operator expectations.

Requirements: The DCS operator is the primary controller. They will implement all startups / shutdowns of any equipment, and monitor their areas of responsibility. The adjustments need to be made by the DCS operator with communication from the field operators.

Required Documents: Refer to Agrium Administrative Policies

Tools and Equipment:

PPE	Hazards	Environmental Considerations

TASKS:

1. Have a clear understanding of your expectations.

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Normal operating procedure for operator expectations.

11.	Work on continuous improvement.	Strive to be and do better. Be willing to learn all you can by cross training etc.	
12.	Step up and make decisions.	Be willing to make all decisions in your job with the support of your super visor.	
13.	Be willing to be coached.	Be open to being corrected or coached whether it's positive or negative.	
14.	Be willing to coach others.	Be willing to coach or help others. Be honest and constructive in your coaching. Do not be mean or unprofessional.	
15.	Maintain clean up through out the plant.	Keep your area clean and orderly with out being told. Show self-motivation. Have pride in your work and what you do.	
16.	Review the (Poop sheet) or instruction sheet every day.	Instruction for plant limitation, guide line, parameters, safety concerns or current and up coming events is documented here.	
17.	Review the Maintenance schedule.	Jobs for maintenance to be done that day or the next day are on here and will directly effect operations.	

Normal operating procedure for operator expectations.

18.	Review the E-Mail daily.	All of your information comes from here. Whether it's Memos, updates on current events, safety issues, changes on processes, or upcoming meetings that you will need to attend.	
19.	Write or request that work orders are to be written on equipment.	Verify that all equipment is working right and if not be sure there is a work order generated to repair it.	
20.	Be committed to work order follow up by: 1. Maintenance doesn't go to work on anything until you turn it over to them. 2. Ask to see the work order first to verify the proper piece of equipment. 3. Give maintenance your expectations of the job up front. You will need to verify that the work is complete before they are allowed to leave. Also they will need to clean their mess up before you will sign the work order off and say the job is complete.	When ever Maintenance comes to you with a work order.	
21.	Do routine walk through of your area.	There should always be a walk through of your area at the beginning of each shift followed by a periodic walk through as time permits.	

Normal operating procedure for operator expectations.

22.	Use barricades or danger, caution tapes with appropriate tags.	Where ever needed use the right equipment to alert operators of any hazards that may be present.	
23.	Use S.O.P.'s on all jobs.	Follow and use all sops's, isolation/ lockout procedures on any job that you are doing. Access to these will be on the home page. You will need to be certified on all of them as well as do them step-by-step the way they are written. (NO SHORT CUTS)	
24.	Report all accidents or incidents.	All accidents and incidents need to be reported to your supervisor no matter how small they may be.	
25.	Give a proper relief.	You will need to make sure you give a good relief, be sure you take the time to communicate all events and document in the log book all events before leaving to go home.	
26.	Take the designated lunch and coffee breaks.	You are paid for a lunch break when you are an hourly operator so you will only get lunch when time permits. However you do have two 15-minute coffee breaks and no longer.	

Normal operating procedure for operator expectations.

27.	Commit to being safe.	Safety of yourself and other fellow Operators come first. Think Safe/Be Safe.	
28.	Log hourly readings on the Data Entry screen.	Refer to the how to enter readings on the Data Entry Screen procedure.	
29.	Trouble shoot and help resolve any problems.	Work with field operators, maintenance, electricians, contractors, or Engineering.	
30.	Activating the 333 system.	Assist other operators on emergencies.	
31.	Review the Lab analysis report daily.	Keep up on the control analysis for your area processes.	
32.	All operators will comply with the Agrium Harassment Policy.	All Agrium Operators are expected to maintain Professionalism at all times.	
33.	All operators will comply with Environmental issues pertaining to your areas.	Spills must be reported to area supervision and immediately cleaned up and disposed of accordingly. Refer to Environmental Guidelines established in your area.	

Training Notes:

1. Safety is the number one priority always.
2. Use of the standard operating procedures.
3. Use of personal protective equipment.
4. The need to follow company policies.
5. The importance of knowing your expectations.

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